



Department of Educational and Psychological Studies

College of Education

Reviews of Single Subject Research Designs:
Applications to Special Education and School Psychology

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And

Spring 2006 Graduate Students in Special Education and School Psychology

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Copyright Protection

The research reviews in this document were written by graduate students in the School Psychology Educational Specialists Program, the Exceptional Student Education Doctoral Program, and the Educational Administration Doctoral Program in partial fulfillment of the requirements for EDP 7058: Behavioral Interventions Research and Evaluation [Professor Ann Nevin] at Florida International University, College of Education, Department of Educational and Psychological Services, Miami, FL, Spring 2005.

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Introduction

By

Dr. Ann Nevin, Visiting Professor, Florida International University
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During the Spring, 2006, semester at Florida International University, graduate students in the Educational Specialists Program in School Psychology and Exceptional Student Education Doctoral Program joined together to study how single subject research designs might be a useful method to apply as part of being accountable to their respective clients. They embarked on this formal study by enrolling in an advanced graduate course entitled, *Behavioral Interventions Research and Evaluation*. The result is this document of brief reviews of the literature featuring single subject research designs. The authors evaluated the single subject research studies in accordance with the following criteria: Was the study applied, behavioral, reliable, analytic, effective, and generalizable? All of the reviews have been checked for accuracy in two ways. First, each author received feedback from the professor. After each feedback session, authors then revised their papers.

The topics represent a range of interests emerging from the individual author's background, experience, and curiosity. The importance of the topics is reflected in their reasons for uncovering the impact of various specialized interventions in terms of effects on special populations (e.g., students who are angry, youth with eating disorders, children with emotional and behavior disorders, individuals with autism and autism spectrum disorder, and so on). The types of interventions that were critiqued include reading intervention programs, reinforcement, cooperative learning. In addition, authors tackled challenges such as how to fit into a single subject paradigm the response to intervention method of assessment compared to the standard method of utilizing IQ-achievement scores as a way to identify students with learning disabilities. The types of single subject research designs that were reviewed were comprehensive and included reversal, multiple baseline, alternating treatment, and changing criterion designs.

The authors of the literature reviews have given permission for reprinting the research reviews. Please be sure to use appropriate referencing to protect their intellectual property rights. It is a privilege to present the literature reviews to the wider community of educators so as to ensure that all of our clients might experience more and more elegant accountability measures. It's been a privilege to coach these graduate students as they learned to conduct a critical examination of good single subject research. Special gratitude is extended for the countless acts of kindness that were exchanged during this process.

Much have we learned from our teachers, more have we learned from our peers, but most have we learned from the students and clients.

Ann I. Nevin, Ph. D.

April 26, 2006

About the Editor

Ann Nevin, author of books, research articles, and numerous chapters, is a scholar and teacher educator who graduated *magna cum laude* from the University of Minnesota with a Ph.D. in Educational Psychology. Her doctoral research focused on how teachers and administrators can integrate students with special learning needs. She earned advanced degrees in special education and educational administration and has participated in the development of innovative teacher education programs since the 1970s. Her research with colleagues in the Vermont Consulting Teacher Program used single subject designs to document the impact of various interventions to increase the academic and social progress of children with disabilities in general education classrooms. Dr. Nevin has co-authored several well-recognized books, e.g., *Collaborative Consultation* (PRO-ED) and *Creativity and Collaborative Learning* (Brookes Publishing Company). Her most recent book (*A Guide to Co-Teaching: Facilitating Student Learning*, published by Corwin Press in April 2004, and co-authored with Jacqueline Thousand and Richard Villa) illuminates the power of co-teaching. Their second book, *A Guide to Differentiate Instruction through Retrofit and Universal Design for Learning Approaches*, is due to be published by Corwin Press in January 2007. Dr. Nevin's advocacy, research, and teaching spans more than three decades of working with a diverse array of people to help students with disabilities succeed.

I

PARENT INVOLVEMENT

Increasing Student Achievement by Increasing Parent and Family Involvement

Christine M. Cuervo

Students labeled as having a disability are already in need of further intervention in order to increase their academic success. Moreover, these students are overrepresented as minorities and/or in lower socio-economic status (SES). The research shows that minority and/or low SES students receive less involvement from their parents (Benson & Martin, 2003; Deslandes & Bertrand, 2005; Simon, 2004; Van Voorhis, 2003). However, the research also shows that there is a discrepancy in the belief as to why these parents are not involved. Teachers believe that parents don't care and parents feel teachers want their space and they are not welcome in the classroom (Halsey, 2005; Sheldon, 2003). This concept is seen in Epstein's theory of over-lapping spheres (Halsey, 2005; Sheldon, 2003; Sheldon & Van Voorhis, 2003; Simon, 2004; Van Voorhis, 2003). Much of the research describes this as the leading problem in lack of parent involvement; miscommunication between parent and school/teacher.

Simon (2004) describes the theory as students, parents, and teachers being in separate spheres. When families and schools hold different goals for the students, the spheres move apart. Also, as students get older, perceptions are skewed; parents feel less able to support their growing child and educators feel parents are less influential and less interested because their children are getting older (Simon, 2004). She notes that the spheres can be pushed apart or pulled together depending on three main forces; background and practices of families, background and practices of schools and classrooms, and age and grade level of students (Simon, 2004). Van Voorhis (2003) describes the theory much in the same way. She states that teachers believe they make efforts to reach out to the parents but parents don't see these efforts therefore the spheres move in opposite directions. This represents the highest level of miscommunication. Parents are waiting for invitations from the school but the school thinks they are already extending this. Unfortunately, the key player to lose in this game is the student. The goal of this theory is for all spheres to overlap; students, teachers and parents.

Sheldon's (2003) research demonstrates that with proper communication, the spheres will come together. His study used Epstein's theory as a framework to involve families and the community in the student's education. When the "spheres of influence" (Sheldon, 2003, p. 151) overlap, schools are more family oriented and vice-versa. Sheldon used data from the National Network of Partnership Schools (NNPS) in regards to partnership programs already implemented in Maryland schools. Through an analysis of surveys from administrators and parents', Sheldon was able to demonstrate that program quality and organization is essential to establishing adequate measures for increasing parent involvement. One key challenge for the schools is to effectively communicate to parents, especially when the home language is not English.

Epstein theory includes a framework of six types of involvement to keep the spheres overlapping. Her six categories include parenting, communicating, volunteering, learning at home, decision making, and collaborating with the community (Sheldon, 2003; Sheldon & Van Voorhis, 2004; Simon, 2004; Van Voorhis, 2003). Repeatedly, family involvement has been shown to be a predictor of student success. When parents are involved, race/ethnicity, level of parent education, and SES are no longer variables that overshadow prediction of student success (Benson & Martin, 2003; Deslandes & Bertrand, 2005; Simon, 2004; Van Voorhis, 2004).

Deslandes and Bertrand (2005) examined four psychological constructs of parent involvement: a) strength of parents' role-construction, b) parents' self-efficacy on helping their children succeed in school, c) parents' perception of teacher invitations to become involved and d) parents' perceptions of students' invitations to become involved. The constructs were described as follow. Parents' role construction meant that parents need to view their participation as a requirement of parenting. Self-efficacy was described as how well parents' believed they had the skills and knowledge to help their children. Perception of invitation from teacher or student was described as how they viewed teachers and their children inviting them to assist. The study was conducted in five public schools in Quebec. Their research listed undereducated parents and single parents to be less involved in certain types of activities with their children, for example, homework was less monitored. The study yielded 770 parents of 7th through 9th grade students but data came strictly from parent surveys and questionnaires (Deslandes & Bertrand, 2005). The study ultimately found that the highest contribution to parent involvement in 7th, 8th, and 9th graders was perception of teacher and student invitations. When the invitations were present, parents' role-construction merged together with an increase in parents' self-efficacy. Parents felt it was their responsibility to be involved because of the invitations. No longer did single parents or less educated parents show up as a factor related to non-involvement.

Simon (2004) found that parent involvement decreased with grade progression so her research was concentrated on high schools where a sample was taken from the National Education Longitudinal Study of 1988. The study focused on the relationship between parents' reports of high schools' outreach and parents' involvement. Her research consisted of surveys from the parents of students who were: a) part of the longitudinal study, b) had a parent survey completed in grade twelve, c) had school administrator surveys completed in grades ten and twelve, and d.) remained in the same school from grades ten to twelve. The results showed that parents' report of high schools' outreach positively predicted parents' involvement regardless of the students' background or achievement (Simon, 2004). In other words, when schools reached out to families, parents responded. When high schools conducted workshops for parents about college-planning or entering the workforce, it was more likely for parents to attend in order to hold these specific discussions with their teenager. Also, when schools contacted parents about volunteering opportunities, they attended more frequently, regardless of the students' background or achievement. Finally, the more often school staff contacted parents' about monitoring homework and how to help their children with homework, parents responded more frequently that they did assist with homework, regardless of students' background or academic achievement (Simon, 2004). Simon's study suggests that high schools have the capacity to reach out, influence, and increase participation from families. The primary response to this research is that with increased communication from the school and teacher, involved parents will become more involved, even with high school aged students.

Van Voorhis (2003) noted that, based on the National Educational Longitudinal Study of 1988 research, parents of middle school students did not receive regular information from teachers about how to help their children with homework. She stated that there was a need for improved communication between the school and parents about how to assist with homework. Her research found that many parents felt embarrassed and frustrated when they helped their children because they forgot or they had never learned the skill. Many times parents would provide negative help because of their ignorance on how to help their teenagers. Parents felt misled because of the lack

of communication held by the school and teacher on how to help their child (Van Voorhis, 2003). However, her notes also stated that parental involvement affects achievement more strongly than SES. Schools that encourage, teach, and expect positive interactions between key members may increase effective family involvement. Van Voorhis (2003) research also showed that most adolescents would interact with their families if their teachers designed homework to do this. In response to this, a study was conducted to analyze interactive homework. Interactive homework was homework pre-designed by the researcher and teacher during the summer months. The activities were linked to the curriculum, written for interaction between a student and family member, and there was a section for parents to reflect and make comments about the assignment. The assignments did not value the parents' knowledge, only the students' knowledge. For example, students would have to interview family members or conduct an experiment and discuss the results. Teachers who used the interactive assignments reported students with higher levels of family involvement, and parents reported the same results. Also, these students turned in their homework more often and had higher science report card grades than the students not using this method. This result did not generalize, however, into other subject areas leading to the importance of implementing subject-specific involvement strategies.

Sheldon (2003) states, "one of the most widely held beliefs in education is that parents are vital for the academic success in their child" (p. 151). In fact, if school personnel do not take responsibility for actively engaging students and their families, parental involvement is more likely to occur only in families with higher SES or education backgrounds. When teachers encourage all parents to participate, the result is higher parent involvement, even, with "hard to reach families" (Sheldon, 2003, p. 150). Sheldon used Epstein's theory as a framework for his study as well as recommendations from the National Network of Partnership Schools (NNPS). The NNPS is a partnership open to schools interested in involving families and communities in students' academic success. His study combined data from the NNPS in 1998-1999 in the form of a survey, 'UPDATE', in order to measure student achievement. Sheldon's (2003) research promotes a development of "Program Outreach". The surveys ranked the schools' Program Outreach, including the following dimensions: a) parents were able to get information when not available to attend a workshop or meeting, b) communication was clear with all families, c) two-way channels of communication were set up, d) invitations and opportunities were present for volunteer work from parents, e) assistance for teachers to develop interactive homework, f) check that all types of families were represented in leadership positions, g) community resources were used to enhance learning, and h) ways to engage families and the community were developed.

Program Outreach developed partnership programs with the teachers, parents, and communities. The results indicated that when the measure of program organization was valued, the overall quality of the partnership program was directly related. Sheldon (2003) showed that school programs which involve students' families and the community were important to academic success. As schools worked on the challenges of parent involvement, students' performance on state tests increased. Sheldon's (2003) study shows that families involved in homework, see higher report card grades with their children, and schools that use family involvement practices see increases in state achievement tests.

The concept of Partnership Programs is structured by Sheldon and Van Voorhis (2004). In this study, the researchers studied 356 schools from the NNPS sample that returned UPDATE. The purpose of the study was to determine which school characteristics and processes predict

program quality over time. Because Sheldon's previous study did not test for the quality of family and community involvement this study was done in order to assist in viewing the relationship between school programs and student outcomes. Again, this study suggests that quality partnership programs are related to higher levels of parent involvement and student achievement (Sheldon & Van Voorhis, 2004). However, Sheldon and Van Voorhis (2004) also showed that in order to implement an effective partnership program, a minimum of 3 years is needed to establish high quality programs. As the years progress the program should be improving, indicating that evaluation is effective. Their longitudinal study suggested that evaluation "may be a catalyst for the improvement of partnership programs over time" (Sheldon & Van Voorhis, 2004, p. 141). In reference to the Program Outreach component, action teams (ATP) were a part of the development. ATPs included teachers, parents, and school personnel in order to effectively monitor and evaluate their Program Outreach. When the ATP used evaluation tools, they improved their design and partnership programs. The data compared secondary schools to elementary schools and found that the latter reported greater levels of parent involvement. The discrepancy here lies with the definition of parent involvement. The researchers noted that the type of involvement seen in secondary schools is different. This suggests that the claim that secondary schools show less-frequent parental involvement may not be entirely valid. What Sheldon and Van Voorhis (2004) noticed was that elementary school parents volunteered more, whereas secondary school parents reported more school-community partnerships.

Halsey (2005) studied one school where parents felt teachers did not want them involved and teachers felt parents did not care. She referred to Epstein's spheres, noting that teachers relied on open-house or letters sent home by the students in order to contact parents. Parents mentioned they needed specifics, a specific assignment, a specific time, a specific place. The spheres were pushed apart because of lack of communication. However, when teachers initiated contact, parents became more actively involved.

Musti-Rao and Cartledge (2004) studied the discrepancies between how teachers viewed a student's specific reading problem and how the parent saw the problem. Initially there was no initiative from the teacher to assist the parent on how to help their child; specifics were not given. The parents would feel overwhelmed and give up. Musti-Rao and Cartledge (2004) offered strategies on developing rapport with families. Some of these strategies included: "get to know" family week, regular face-to face meetings, training sessions, and flexibility.

These concepts are again seen in a study by Benson and Martin (2003). They suggested one-to-one communication, create comfortable environments, and provide parent activities as well as opportunities to volunteer. Their research repeated the notion that when schools and teachers make the effort, take clear and deliberate action to involve families, parents will demonstrate a willingness to be involved (Benson & Martin, 2003).

Hall (2006) study demonstrates how to use single-subject design to show the effects of problem-based learning for victims of bullying. An AB design was used to describe the counselor's implementation of problem-based learning (PBL) with a group of seventh graders who were the target of bullying. The subjects were 5 students who were identified by the counselor as being victims of bullying. Three boys and two girls aged thirteen to fourteen years old. The study is applied as the setting for the study was at the school. The dependent variable was the observation of students displaying assertive behavior when being bullied. The independent variables were

counseling sessions on PBL and behavior observation forms completed by the teachers. This is a socially valid problem because research shows many ill effects from children who are exposed to bullying, not limited to, depression, poor grades, and decreased socialization (Hall, 2004). Assertive behavior was defined by the students in their counseling sessions as being able to make eye contact with the bully and telling him/her to stop picking on them. Because this is the only definition of assertive behavior offered by the researchers, we cannot accept it as behavioral. This represents a limitation of the study as there are different perceptions to what being assertive means. It is, however, empirically valid because from the onset of the intervention the students began displaying more confidence in their classes.

This result could happen because of the intervention itself or because there is a sense of support in meeting with others who experienced the same negative behavior. The study does not control for this extraneous variable. Although the study shows that PBL is a positive intervention and demonstrated positive results, it is not reliable because there was no inter-observer reliability. Also, teachers may have been influenced in their rating scales due to their knowledge of the nature of the study and counseling sessions. The intervention is generalizable because the behavior was seen in different environments at school. Long-term results were not included. However, the study could benefit from showing whether the behavior continued without future counseling sessions. The change in behavior was meaningful because the students displayed positive effects. The foundation of this study is good; however, a different design may have yielded more valid results. For example, Hall could have used an ABAB design to show a return to baseline performance and offer a visual representation of a functional relationship between the dependent and independent variables.

This critique is useful as a framework for creating a single-subject pilot study in the area of parent involvement. Parent involvement studies in the area of academics are often times qualitative and incur information from past research. The purpose of this information is to create a pilot study in the form of a single-subject design to view specific children and study a specific area of parent involvement. Parent-involvement may include a multitude of definitions such as being involved in school, involved in activities, or involved at home. Many of the single-subject design studies focus on behavioral aspects of involvement; this study is geared towards studying the effect of increasing parent involvement at home and through communication on the academic component of the student's school environment.

These studies provided useful information on why parent involvement is so effective and the results of increasing parent involvement. They were chosen because of their relevance in increasing academic performance for learning disabled children. These studies used data from other studies and their sample sizes were very large in magnitude. They were based on high reliability coefficients. None of these studies viewed specific children and specific academic gains. Most relied on previous research which states that parent involvement is essential in all grades for success. Although this may be true, more case studies are needed in this field to measure specific advantages and specific strategies.

Search terms used to find these articles included: parent involvement, family involvement, parent activities, secondary education, teacher-parent communication, and school-parent activities. Searches were conducted through Google Scholar, Wilson Web, and Psych Info. These studies shared a common thread which was communication. In order to increase parent involvement, there

must exist effective communication between the school and parent. All the studies showed that when teachers and the school initiate contact, parents increased their participation. The issues of SES, ethnicity/race, and parent level of education seemed not to be a factor. Epstein's theory provided a framework in which to base strategies to increase involvement. Educators know that there are two sides to every story, but how often does each hear the other side?

The common outcomes identified the following: a.) when schools/teacher initiate contact, parents respond, b.) parents feel it is not their place to intervene in secondary education, c.) parents feel their children do not want them involved, d.) when parents are involved this increases student success and deletes the concept of SES and educational level.

Research Question

Building on a powerful statement from Halsey (2005), it is clear that teachers have the responsibility to initiate parent involvement. Reciprocally, it can be argued that parents have the responsibility to respond to a teacher's requests with willingness to become involved. Based on the results of this review of the literature, a pilot study can be designed with a specific case study so as to apply the single subject design framework. For the purpose of this research, a family of a student with learning disabilities will be studied.

The research questions that frame the proposed study include:

1. What are the academic effects for a student with disabilities when his parents and/or family members participate in school-involvement strategies?
2. What are the academic effects for a student with disabilities when his teacher participates in home-involvement strategies?
3. What are the academic effects for a student with disabilities when his parents and teacher participates in school/home involvement strategies?

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ACADEMIC INTERACTION

The Effects of Role-Play Activity on the Positive Interactions of Preschool Students with Autism.

Eilén Aguilera

Although autism is a spectrum disorder in which its symptoms can present themselves in many combinations, from mild to severe, most of the children who are autistic have problems socializing and interacting with others including their families, their teachers, and/or their peers. In general, autistic children may have problems expressing their needs, using gestures, responding to verbal cues, using eye contact, and being touched by others. In the classroom setting, these students may have difficulties turn taking, initiating conversation, and participating in the class.

Because interacting with others is an important part of human development, I think that training students with autism and promoting their interactions with their peers is highly important and extremely socially valid. I believe that all of us should value those strategies that have proven helpful in the social skills development of autistic children. In this proposal, I will be reviewing some of the research that has been done regarding peer interaction and social skills training and their effects on children with pervasive developmental disorder.

Both ERIC and Education Full Text via Wilson Web were used to select the articles for the literature review. Specifically, the following keywords were used: peer interaction, social skills training, and autism. From the list of articles, I chose those articles that got my attention as I read their titles and their abstracts. Furthermore, because I was interested in reviewing articles that would have the most updated information on the topic of interest, I chose articles conducted in the year 2000 and up. I decided to critique these articles in chronological order, starting with the earliest article, conducted in the year 2000, to the most recent, conducted in the year 2005. In addition, to judge the quality of the studies, the following questions were asked: Is the study behavioral? Is it applied? Is it reliable? Is the study analytic? Is it generalizable? Is the study empirically valid? Is it socially valid?

Laushey and Heflin (2000) determined if a peer-initiated procedure taught to all peers in a kindergarten class was more or less effective than a proximity approach to peer involvement. Two participants were selected; both were males, who met DSM-IV criteria for having autism or pervasive developmental disorder not otherwise specified. Both of these students had similar characteristics, including the minimal use of eye contact, difficulties reading social cues, and problems engaging in conversation for more than two turns.

The setting of this particular study took place in two different kindergarten classes, each located in different schools. The schools were located in middle to upper middle class suburban areas. Each of the classes contained a child with autism or pervasive developmental disorder not otherwise specified (PDDNOS). In addition, there were approximately 20-25 students, a teacher, and two paraprofessionals in each class.

Four dependent variables included: 1) asking for an object and responding according to the answer given, 2) appropriately getting the attention of another, 3) waiting for his turn, and 4) looking at or in the direction of another person who is speaking to him. The independent variable

was a buddy system in which each student in both of the classes was assigned a daily buddy to interact with during free play center time. The design used in this particular study was an ABAB design including two baselines and two intervention phases. During the intervention phases, each student was asked to play and interact with the daily buddy that had been assigned to them. Specifically, each student was instructed to stay with, play with, and talk to his/her buddy during free center time activities.

Data was collected on the four dependent variables previously identified for 10 minutes an average of once every ten days. A trainer observer seated within 3-5 feet of the target student and recorder the behaviors using event recording. When the observers were within 85% agreement, they began independently and simultaneously scoring sessions. In general, interobserver agreement ranged from 77-100%, averaging 92%. Follow up data was obtained for one of the participants approximately one year later after the study had been conducted.

The results of this specific study showed that the independent variable (buddy system) promoted more appropriate social skills in the students with autism than the passive proximity approach. For example, the social skills performance improved from a mean baseline of approximately 29% to a treatment mean of 75% for the first participant and from a mean baseline of approximately 28% to a treatment mean of 66% for the second participant. Furthermore, the teachers reported that the intervention had helped those students who were shy or had trouble making friends in the classroom. The dependent variables studied were of a behavioral nature (asking for an object and responding according to the answer given, appropriately getting the attention of another, waiting for his turn, and looking at or in the direction of another person who is speaking to him). The specific criteria used to record each of the dependent variables was described in the study. In addition, the study is applied because it took place in two classroom settings and it is also reliable, interobserver agreement ranged from 77-100%, with an average of 92%.

The study is analytic because an ABAB design was used. Its generalizability was assessed approximately one year later as data was collected for one of the students showing positive results. The study is empirically valid because a functional relationship was established between the independent (buddy system) and the dependent variables (four target behaviors). Finally, it is socially valid because the teachers reported the study had had a positive impact on those students who were shy, as they had opportunities to interact with other students in the classroom. In my opinion, this study is a good example of an ABAB design. The study however, has some limitations. Only two students were selected to participate in the study, both of these students were considered to be functioning at a high level in the autistic spectrum, and one of the participants had less sessions recorded due to his absences.

Garfinkle and Schwartz (2000) evaluated the effects of a peer imitation intervention package designed using strategies from various previously examined protocols and measured the effectiveness of the intervention on a broad scale (peer imitations and social interactions during both the training sessions and generalized settings, the number of imitations made of the target child by typically developing peers, etc.).

The participants of the study were four boys enrolled in a preschool located on a university campus. Three of the participants were diagnosed with autism or met the criteria for

diagnosis, while the fourth participant did not have a formal diagnosis but had a documented developmental delay. The four children shared the same characteristics in that they were significantly socially and cognitively delayed. Two of the children were enrolled in the same classroom while the other two children attended different classrooms.

The setting took place in the children's classrooms as part of the regular classroom activities. The assistant teacher in each class was responsible for implementing the intervention. The assistant teachers' years of experience ranged from 1 to 15 years of experience and they all had a bachelor's degree. The type of design used was a multiple baseline across the four participants and follow up data was obtained for three of the participants in the classroom setting.

The intervention of the study consisted of four steps: 1) the teacher instructed the small group, 2) the teacher selected a classroom leader, 3) the teacher prompted to promote imitation of behavior, 4) the teacher praised the imitative behaviors of the students. The intervention was implemented during small group time, taking place for about 10 minutes. Data was also collected during free play activities as well. Furthermore, follow up data was obtained after the small group training was discontinued and the interobserver agreement for small-group observations ranged from 96-100% with a mean of 98%. For free play, interobserver agreement ranged from 83-90% with a mean of 86%.

The results of the study indicated that none of the target behaviors showed peer imitation during baseline. During small-group training, the participants showed an increased but still a small number of peer imitations while levels of social interactions remained low and consistent with baseline data. During the follow up phase, peer imitation maintained for only one of the participants and this was only for one day. In addition, the amount of social interaction was equivalent with the social behavior recorded during the baselines and intervention phases.

The study is behavioral because the target behaviors were observable. The study is applied because it took place in classroom settings. The study is reliable because interobserver agreement for small-group observations ranged from 96-100% with a mean of 98%, and the interobserver agreement during free play activities ranged from 83-90% with a mean of 86%. The study is somewhat analytic. Although a multiple baseline across subjects design was used, the target behaviors showed only a small increase during the intervention phase as compared to the baseline phase. The generalizability of the study is questionable. During the follow up phase, peer imitation maintained for only one of the participants and this occurred only for one day. In addition, the study cannot be generalized to a new setting. The study is not empirically valid because a functional relationship can not be established as there was only a small increase in peer imitations during small-group training and the levels of social interactions remained low and consistent with baseline data. The small changes that did occur, however, could be attributed to some extraneous variable(s) and not directly to the intervention.

The study is socially valid because the teachers reported feeling comfortable using the intervention and they believed the intervention had helped the children to imitate their peers more, to be more aware of their peers, and to demonstrate better play skills. In general, I think this particular study isn't a great example of a multiple baseline design across subjects as the intervention did not prove to be very effective. In addition, peer imitation did not maintain during follow up for three of the participants while maintaining for the fourth subject for only one day.

Yang, Huang, Schaller, Wang, and Tsai (2003) compared the generalized effects of a social-emotional skills training for girls and boys with autism in resource rooms on promoting positive social behaviors in a general education classroom setting in Taiwan. The subjects of this particular study were two girls and two boys with autism in the experimental group and two boys with autism in the control group. The participants were matched by gender, verbal and nonverbal ability, severity of autistic symptoms, and age. The Behavior Record Form (BRF) was used to record the students' behaviors in the classrooms using event recording. To assess reliability, a pilot study was conducted for fifteen boys and three girls with autism. Alpha coefficients were .91 with test-retest reliabilities for two days at .90 and two-week interval .80. To conduct the study, homeroom teachers were asked to record students' behaviors on the BRF system five days a week (Monday through Friday). The authors of the study pointed out that the homeroom teachers were aware there was a program in effect taking place in the resource rooms of the students, but that the teachers did not know when the intervention was implemented or the students' placement either in the control or the experimental group.

The design of the study was an AB design. During the baseline phase, the regular remedial education curriculum took place in the resource rooms for both groups, the experimental and the control group. In the intervention phase, training sessions were conducted for the experimental group in two different resource rooms located in two separate schools while the regular remedial education program was maintained for those participants in the control group. The specific social-emotional skills curriculum used in this study was developed by three of the authors, Yang, Huang, and Wang (2003) to teach autistic children both social and affect skills. The training was conducted in small groups of 3 to 4 students and it included modeling, role-play, direct instruction, visual cues, rehearsal, and some procedures of reinforcement.

The results of the study indicated that for all the participants in the experimental group, there was a statistically significant increase in their amount of positive behavior while for the two control subjects, a specific trend was not detected. Specifically, the intervention showed a medium size effect for two of the participants and a small size effect for the two other subjects in the experimental group condition. The study is behavioral because it measured observable behaviors. It is applied because it was conducted in classroom settings. The study is reliable because a pilot study was conducted and showed that the alpha coefficients were .91 with test-retest reliabilities for two days at .90 and two-week interval .80. It is analytic since it compared the behaviors of both the participants in the experimental and control groups.

The study is not generalizable because no specific data showed that the students generalized their positive behaviors over time or in a new setting. It is not empirically valid because a strong functional relationship cannot be established. The training consisted of multiple skills and behaviors, therefore it is not clear whether the positive behavior demonstrated by the students was the result of the training in general, or one or more of the specific skills that were taught to the participants in the experimental condition. The study is socially valid as there was an increase in the positive behavior of the students regardless of the specific factor(s) that may have caused the change. The authors addressed some the limitations of the study, including: a small sample size, the fact that the subjects were not randomly assigned to the experimental and control groups (a matched sample was used) limiting the generalization of the study to other children with autism, and the homeroom teachers being asked to rate the participants' social interactions in the general

education setting, which may have been impacted by their specific characteristics and personal opinions.

Thiemann and Goldstein (2004) examined the effects of two social interventions (peer training and written text treatment) on the social communication of five elementary students diagnosed as having a pervasive developmental disorder. Three questions were asked in the study: 1) Does a social intervention program consisting of peer training and written text treatment affect specific student social-communication skills of elementary students with PDD? 2) What are the collateral effects of the intervention on peer responsiveness and peer acceptance of students with PDD among trained and untrained peers? 3) Do naive judges perceive changes in the quality of the children's interactions after treatment and do teachers perceive changes in frequencies of social behaviors?

Five elementary students with DDD and ten peers without this condition from five different elementary schools were the participants of the present study. The students were assigned into five triads consisting of one student with PDD and two other students who were normally developing peers. The following criteria was considered to select the participants: teacher report of delayed social skills and difficulties interacting with peers, parent report of delayed social skills, verbal communication using simple sentences, full versus partial inclusion in the regular education setting, and acquired word identification skills.

The setting took place in an integrated elementary school classroom during organized activities. One of the triads however, met in a resource room designed to create support for 8-10 students with learning disabilities. A multiple design across subjects was used to evaluate the effectiveness of peer training and a multiple baseline across social-communication skills design replicated across triads to measure the effectiveness of the WTT on social-communication initiations.

The results of the study indicated that all five participants demonstrated variable and sometimes high initiation and contingent response rates during baseline. In addition, the data showed noticeable interaction rates for two of the participants while failing to show a clear and consistent increase or improvement in a third subject. The data also revealed that after peer training, four of the five dyads increased their responsiveness to initiations by the focus children while changes in peer acceptance varied across the participants. Finally, 16 naive subject judges who were asked to complete some questions regarding the focus children reported improvements in both the quality and rates of interactions for all five triads after treatment.

The study is behavioral because it measured behaviors that are observable and clearly defined. It is applied because it was conducted in five different elementary school classrooms. It is reliable because treatment fidelity was consistently above 80%, ranging from 80% to 100%. The study is not analytic or empirically valid. The participants demonstrated variable and sometimes high initiation and contingent response rates during baseline. In addition, two of the participants showed noticeable increased interaction rates while the data failed to show a consistent increase in another subject.

The study is not generalizable because no data showed that the behaviors were generalized. The study is somewhat socially valid. Two of the participant's teachers reported

improvements in the social development scores on the SSRS (a Teacher Report questionnaire the teachers were asked to complete both before and after the treatment to assess their perceptual changes on the participants social skill development). The other three teachers, however, did not report significant changes.

Koegel, Werner, Vismara, and Koegel (2005) evaluated the effects of a contextual support package during play dates on socially valid factors of peer interaction. The participants of the study were two children with autism who shared similar characteristics and the design used was a multiple baseline design across participants. There were two conditions in the study, play dates without contextual support and play dates with contextual support. The parents of the children with autism were asked to contact the parents of same age peers from their child's class or their neighborhood to participate with their children in play dates. In the first condition of the study, no specific instructions were provided to the students while in the second condition, two components were present: activities that were mutually reinforcing for both children were selected and the facilitator set up cooperative arrangements between the children within each activity.

There were two dependent variables in the present study: synchronous reciprocal interaction with an 87% interobserver agreement (ranging from 75-100%) and affect with an average of 94% interobserver agreement. The results of the study indicated that both participants showed low levels of synchronous reciprocal interaction with their peers during play dates without contextual support while showing an immediate increase during play dates in the contextual support condition. Similarly, affect ratings during play dates without contextual support were all in a neutral range, however, when the contextual support condition was introduced, affect ratings were in a positive range.

The study is behavioral because the behaviors studied can be measured. The study is applied because it took place in natural settings (home, park, beach, zoo, bowling alley, etc as opposed to a clinic or a lab). It is reliable because the average interobserver agreement for synchronous reciprocal interaction was 87% while the average interobserver agreement for affect was 94%. The study is analytic because it showed the same effects for both participants. In addition, a reversal was conducted for one of the participants, showing a return to low levels of synchronous reciprocal interactions during play dates without contextual support. The study is generalizable because the effects of synchronous reciprocal interaction continued for over a period of several months for one of the participants.

The study is empirically valid because both participants showed improvements in both synchronous reciprocal interaction and affect on play dates with contextual support as compared with play dates without contextual support. It is socially valid because in addition to improved reciprocal interaction and affect, the play dates initiated by the parents of the participants resulted in their peers seeking additional interaction with their children by inviting them over to play with them more often.

Conclusions

In summary, these studies described show the effects of peer initiated, peer training, peer imitation, social-emotional skills training, and contextual support on the social interaction of students with autism. The participants were preschool and elementary school children. The

settings were classrooms with the exception of one of the studies, which took place in naturalistic settings. In addition, AB, ABAB, and multiple baseline across subjects' designs were used. Of the designs that were used, the ABAB design showed the strongest functional relationship between the independent and the dependent variables. For the other studies, an equally strong functional relationship could not be established, especially in the case of the study where the peer training consisted of multiple factors. Other limitations of the studies include a small sample size, using a matched sample versus a random sample, and the fact that almost all the participants were boys (although autism is more common among male than female students).

Research Question

To advance research in the area of peer training and children with autism, I propose a study that will correct the limitations of previous studies. Specifically, the following research question to be addressed: Does a role-play activity affect the positive interactions of preschool students with autism during free play?

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Investigation of Different Methods to Improve Reading Fluency in Elementary At-Risk Readers

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Fluency is the ability to read orally in a smooth and effortless manner and has been referred to as a critical, but often neglected component of reading instructional programs (Allinder, 2001). Yet fluent reading is considered a hallmark of good readers and a major goal of reading instruction. Fluency is important because it provides a bridge between word recognition and comprehension (National Institute for Literacy, 2001). Fluent readers do not have to concentrate on decoding the words and, as a result, can focus their attention on what the text means. Furthermore, they can make connections among the ideas in the text and between the text and their background knowledge (National Institute for Literacy, 2001). In other words, fluent readers recognize words and comprehend at the same time. On the other hand, less fluent readers must focus their attention primarily on decoding individual words and, therefore, have little attention left for comprehending the text (National Institute for Literacy, 2001).

Fluency is hypothesized as the result of automatic decoding (Allinder, 2001). According to this hypothesis, the initial stages of reading are marked by word-for-word decoding, at which time children often read at a slow and laborious pace. Non-fluent reading is assumed to be the result of nonautomatic decoding skills. As children become more skilled at decoding individual words and advance to the automatic level of decoding, they are able to devote more of their cognitive resources to understanding the meanings of the words they are decoding. Allinder (2001) states that at this stage of reading, the child is more fluent in reading orally and is able to convey prosodic information through text phrasing, verbal expression, and rate of reading. These prosodic clues allow the listener to gain insight into the child's reading skills, including comprehension (Allinder, 2001).

In addition, a recent large-scale study by the National Assessment of Educational Progress (NAEP) found that 44% of a representative sample of the nation's fourth graders were low in fluency (National Institute for Literacy, 2001). The study also found a close relationship between fluency and reading comprehension. Students who scored lower on measures of fluency also scored lower on measures of comprehension, suggesting that fluency is a neglected reading skill in many American classrooms, which is affecting many students' reading comprehension.

Many students, particularly at-risk readers and those with learning disabilities, may not obtain the skill of fluent reading automatically or incidentally. Therefore unlike their typical peers, students with learning disabilities or reading difficulties may require direct instruction on how and why fluent reading is important (Allinder, 2001). Researchers have investigated two major instructional approaches related to fluency. In the first approach, repeated and monitored oral reading is when student read passages aloud several times and receive guidance and feedback from the teacher (National Institute for Literacy, 2001). In the second approach, independent silent reading, is when students are encouraged to read extensively on their own. The key findings from the scientific research on fluency instruction found positive effect only with oral reading strategies (Staubitz, Cartledge, Yurick, & Lo, 2005).

Various methods have been employed to improve oral reading fluency, including combinations of contingent reinforcement, modeling, choral reading, tape-assisted reading, partner

reading, readers' theatre, previewing and performance feedback (Staubitz, Cartledge, Yurick, & Lo, 2005). Much of the previous literature on fluency states that the most promising approach is repeated reading (RR), which typically involves students rereading a passage of text with a partner or instructor. The student's fluency is measured during the initial reading of a passage, after which the student practices rereading the passage aloud until the established fluency criterion is met.

The following articles report some various reading interventions and their effect on fluency and comprehension in school-aged children. The articles were located using the Florida International University library's databases. The databases that produced the most relevant and useful results were PsycINFO and Education Full Text via Wilson Web. Articles were found by using keywords such as 'reading', 'reading fluency', 'repeated reading', and 'reading comprehension'. The results were then filtered by using AND 'elementary', 'reading delays', or 'learning disability'. Implementing these steps helped my research process be more effective and less time-consuming.

Literature Review

Staubitz, Cartledge, Yurick, and Lo (2005) evaluated the effects of a repeated reading (RR) intervention on the oral reading fluency and comprehension of six urban fourth and fifth-grade students with and at risk for emotional and behavioral disorders (EBD). Specifically, the study was designed to investigate the effects of RR as a sole reading intervention with six urban intermediate-grade students with or at risk for EBD, evaluating the effectiveness of peer-mediated strategies with students with or at risk for EBD, assessing the generalization of improvements to unpracticed passages, and verifying the intervention effects with a standardized test. The students were identified as reading at a minimum of two years below grade level and who were all receiving academic instruction in resource classrooms designated for students with EBD or learning disabilities (LD).

Staubitz et al. (2005) used a multiple baseline design across subjects to study repeated reading effects according to gains in reading fluency, comprehension, and generalization to unpracticed passages under covert and overt timing conditions. Each student was assessed with four subtests from the Woodcock Johnson III prior to baseline and after the intervention had been completed. In addition, the baseline condition was sustained silent reading (SSR), a common independent reading activity. Students were given 10 minutes to silently read a passage of 180-200 words, then students were asked to read aloud to the experimenter for a timed one minute. After the oral reading, students responded to five comprehension questions in a cloze procedure. Furthermore, the experimenter then trained students in pairs immediately prior to the intervention once the WPM and accuracy data for two students, who were stable.

During the intervention, which was the peer-mediated RR sessions, students read with partners from a passage of 180-200 words for 10 minutes. While one student read, the other students followed along with her/his finger and corrected miscues using a scripted correction procedure. After the 10 minutes of practice, the students individually read the practiced passage to the experimenter for a timed one-minute. The students then charted the number of words read during their best performance in their reading folders at the end of every session. Once the student reached the fluency criteria, she or he was instructed to answer the five accompanying

comprehension questions. Students advanced to the next grade-level passage only after they met the fluency criteria and answered all five comprehension questions correctly.

Interobserver agreement data for student performances were collected for 33% of the sessions throughout the study and was obtained by comparing the agreements between the experimenter and the interobserver's recording for all six target students (Staubitz et al., 2005). A mean IOA of 97% was achieved, which demonstrates that the measures used can be considered reliable. Results for this study indicated that all students improved both reading fluency (i.e., speed and accuracy) and comprehension when participating in repeated reading. Improvements were also observed on the unpracticed generalization passages; furthermore the addition of overt timing and charting produced the greatest improvements. Moreover, these gains were confirmed through the administration of standardized tests in reading. Staubitz et al. (2005) stated that all of the students in the study read more fluently and with superior comprehension during the repeated reading phase of the study than they had during the SSR condition. Also, all the students agreed that the intervention made reading fun and their participation in the program had improved their reading.

Students who have limited skills in decoding and comprehension and who also lack motivation to read present difficulties for educators. Difficulties may be compounded when these students lack access to age-appropriate and interesting text and have lost the notion of reading as a process of obtaining meaning from print (La Fevre, Moore, & Wilkinson, 2003). La Fevre et al. (2003) examined the effects of a modified reciprocal teaching intervention for readers with poor decoding skills and poor comprehension. Tape-assisted reciprocal teaching was used to help students with poor decoding skills develop cognitive and metacognitive strategies and improve their comprehension of high interest expository texts. Each experimental group was comprised of a heterogeneous mix of six elementary students, three with poor decoding skills and three with adequate decoding skills, all of whom showed poor comprehension.

La Fevre et al. (2003) implemented two single-subjects design studies involving four groups of students. Study I involved one experimental group and Study II was a multiple design involving three experimental groups. An ABC single-study design was employed for Study I where thirty-nine non-fiction, expository passages of 250-350 words were selected as assessment passages for baseline, intervention, follow-up, maintenance and generalization data. Sixty of these training and assessment passages were recorded on tape by fluent readers at an average speaking rate of 100 words per minute. A short-answer comprehension test of 10 questions was constructed for each assessment passage and all texts were randomly assigned across all phases of the study. At baseline the poor and adequate decoders listened to an audiotape while following the text and after students were required to complete a short-answer comprehension test based on the passage. Following the collection of these baseline data, conventional reciprocal teaching was introduced. After reciprocal teaching was practiced and implemented, students were given an assessment passage to read and were asked to complete the accompanying 10-item comprehension test directly following each reciprocal teaching lesson. Tape-assisted reciprocal teaching followed the conventional reciprocal teaching intervention. Audiotapes of the expository passages at the students' age-appropriate interest level was introduced for students to listen to while following the standard procedures of reciprocal teaching. Following each tape-assisted reciprocal teaching lesson, students listened to and read an assessment passage that was simultaneously available as text and audio recording and completed the accompanying 10-item

comprehension test. Furthermore, comprehension passage tests were given to all participants two weeks following the completion of the tape-assisted reciprocal teaching intervention and again as a maintenance measure 10 weeks after.

The results for Study I show that the poor decoders were unable to apply the cognitive and metacognitive strategies under the conventional reciprocal teaching procedures. However, almost immediately following the introduction of tape-assisted reading, the poor decoders began using the reciprocal teaching strategies and their daily comprehension test scores improved with students.

On the other hand, the purpose of Study II was to establish the generality of the effects of tape-assisted reciprocal teaching intervention with a larger number of participants. The study employed a single-subject multiple baseline design involving three groups of six students. Following the baseline data collection, the researcher immediately introduced tape-assisted reciprocal teaching. The omission of conventional reciprocal teaching, like in the first study, provided an extended intervention phase and eliminated the possibility of order effects.

As a result of the tape-assisted reciprocal teaching, the poor decoders demonstrated improved application of cognitive and metacognitive strategies and improved comprehension. These improvements were shown on both researcher-developed and standardized tests as well as on maintenance and transfer measures. The students with adequate decoding skills also showed improvements in comprehension. Unfortunately, no IOA was mentioned in either one of the studies, which limits the reliability of the study. In conclusion, La Fevre et al. (2003) state that the success of the intervention for poor decoders suggests that tape-assisted reciprocal teaching may be seen as a form of "cognitive bootstrapping" to enable poor readers to escape the cycle of reading failure and engage more meaningfully in the process of reading.

As it has been previously discussed, the need for research-based instructional support for culturally and linguistically diverse students with reading difficulties is a national priority. Hitchcock, Prater, and Dowrick (2004) conducted a multiple-baseline design to examine the effects of two independent variables, which were community partner tutoring and video self-modeling, as they were applied to two dependent variables, which were reading fluency and comprehension skills. Teachers and parents selected four first-grade students who were experiencing delays in fluency and comprehension. Two students were identified as having specific learning disabilities, one as being developmentally delayed, and one was in the process of being referred for special education. The sequence in the multiple-baseline design was as follows: first, a series of repeated measures were taken on each of the two target behaviors to determine the students' level of performance. When criterion-level performance was reached on the first target behavior, the next intervention phase was implemented. "The six phases of the design for each target behavior were (a) baseline, (b) tutoring to increase reading fluency, (c) tutoring plus video self-modeling, (d) tutoring to increase reading comprehension, (e) tutoring plus video self-modeling, (e) tutoring plus video self-modeling, and (f) follow-up" (Hitchcock et al., 2004, p. 94). Measures of reading fluency and comprehension were collected on one occasion in the classroom during the month following the intervention to determine if skills had generalized to the classroom.

Measures of interobserver agreement were obtained for 30% of the session in each phase of the study. Measures ranged from 87% to 98%, with a mean of 96%, demonstrating the measures used can be considered reliable. Furthermore, the data showed that tutoring by a

community partner and video self-modeling increased both reading comprehension and reading fluency skills. The greatest rate of increase in oral reading fluency was noted when the video self-modeling tape for reading fluency was added. When the tutors introduced the reading comprehension protocol, all four students continued to make gains in both reading fluency and comprehension. Moreover, adding the video-tape of the student successfully applying the story map and answering comprehension questions consolidated the gains and reduced variability. In terms of social validity, written and oral comments from teachers, parents, and tutors during the focus group showed that stakeholders rated the project highly and valued the students' improvements in both reading and behavior (Hitchcock et al., 2004). In conclusion, the results of this study provide evidence for the positive effect of video self-modeling on reading and reinforce the importance of instruction in reading comprehension.

Direct Instruction (DI) is an explicit rule-based instructional approach and is a popular method of teaching reading to emerging readers. Miao, Darch, and Rabren (2002) conducted a multiple baseline study in which Direct Instruction was combined with precorrection strategies in teaching decoding skills to students with emotional and behavioral disorders. For this particular study, the precorrection strategy included having the teacher (a) identify the context and the predictable academic problems, (b) specify expected behaviors, (c) systematically modify the context, (d) conduct behavior rehearsals, (e) provide strong reinforcement for expected behaviors, (f) prompt expected behaviors, and (g) monitor the plan (Miao et al., 2002). Furthermore, the researchers monitored participant progress in the areas of percentage of correct words, the recall of previously taught material, and on-task behavior. Unfortunately, no IOA was mentioned in the study, which limits the reliability of the study.

The participants consisted of 6 first grade students with low average intelligence and who were experiencing difficulties with basic reading skills. The results of this study suggest that precorrection used with Direct Instruction teaching methodology can be an effective and efficient intervention for teaching beginning reading skills to students with emotional and behavioral disorders. However, the focus of this study was mainly on basic reading skills and not on fluency or comprehension. Therefore, although the methods proved to be beneficial, it is uncertain as to whether or not the methods will have any effect on fluency or comprehension.

Hale, Skinner, Winn, Olliver, Allin, & Molloy (2005) conducted an investigation on reading comprehension and fluency in relation to listening while reading (LWR). The study was created out of dissatisfaction with the more popular strategies, such as repeated reading. The authors stated that "repeated reading procedures can be time consuming and may increase comprehension levels without increasing comprehension rates" (Hale et al., 2005).

The study included four participants at the secondary level with average intelligence who read at the primary level. An alternating treatment design was implemented where the participants were exposed to two or three conditions per session over a course of nine sessions. The interventions were 1) solely listening to text being read aloud, 2) listening to text being read aloud and following along simultaneously, and 3) silent reading. At the conclusion of each session, students were assessed in the area of comprehension. The data suggest that neither accommodation procedure consistently caused large increases in comprehension levels. From this study, it is evident that more success has been reached through structured reading programs than listening interventions. The design of the study, the methods and implementation, were a

satisfactory example of a single subject design. On the other hand, there was limited success with the interventions chosen for this study, which limits the practicality of the study as a whole. However, one must remember that not all studies are successful and it is important that they are published to inform the public what strategies may not be effective and to provide implications for future research.

Conclusions

It is known that fluency is important because it allows the student to be free to understand what they read, without having to worry about decoding the text at hand. From this review, it was found that from the studies conducted reading fluency can be developed by modeling fluent reading, by having students engage in repeated oral reading, by implementing community and peer tutoring, using self-modeling videotapes and tape-assisted reciprocal teaching. But it is also important to investigate how a complete Language Arts curriculum can combine the methods mentioned above to ensure that elementary at-risk readers can develop fluency and improve their reading comprehension skills.

Research Question

A single subject research study is proposed that combines a direct instruction approach with repeated reading strategies, like student-adult reading, tape-assisted reading, and partner reading, to enhance the reading fluency and comprehension of elementary at-risk readers. The question is: What effect does direct instruction with various repeated reading strategies have on the reading fluency and reading comprehension of elementary at-risk readers?

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The Effects of Cooperative Learning on the Academic Performance of Secondary Students in Inclusion Settings

Jacques Bentolila

Cooperative Learning has multiple definitions and is referred to in the literature by various aliases as well as program titles created by researchers and corporations. The literature reviewed for this study generally agrees that cooperative learning involves a group of individuals working together towards a common goal, in this case learning in the classroom. Cooperative learning can effectively promote academic achievement and social skill development (Siegel, 2005). Over the years there have been many cooperative learning strategies and programs that have been used in general education, but the use of cooperative learning in the secondary school setting has been limited (Fuchs, Fuchs & Kazdan, 1999). In addition, with the increase emphasis being placed on including students with disabilities in classrooms with their non-disabled peers it seems logical to include this component into this study.

While researching cooperative learning strategies it was overwhelming to see the variations that exist for teachers to choose from. Each program/strategy has a set of guidelines that encompass the correct implementation of that form of cooperative learning for it to be deemed successful. Siegel (2005) noted that "researchers who design cooperative learning strategies decide (a) which instructional methods to use for fostering cooperative learning, (b) the frequency and duration of cooperative learning lessons, (c) which activities and materials to use, and (d) the composition of student groups (p.339)." Basically the research conducted to validate a cooperative learning strategy is done in a controlled environment. In addition to controlling the variables listed above, all the necessary resources to make the implementation of the strategy successful are made available to the teacher implementing the strategy.

In contrast, in the real world of implementation, it is rare for a teacher to be in total control of so many variables. In reality, the teacher is more likely to consider (a) curriculum context, (b) available time and materials, and (c) student factors (Siegel, 2005). A veteran teacher is likely to be flexible in the daily implementation of lessons, and is always "putting out the fires" that occur on a daily basis. The average classroom is not always physically accommodating to cooperative learning, and the student population in the classroom is usually randomly generated by a predetermined pool of students (based on articulation and student academic levels). These realities must be taken into consideration if cooperative learning is going to be implemented into a large urban school district.

The use of cooperative learning can also affect the behavior of students, especially those students with disabilities. This benefit of cooperative learning can be magnified when paired with inclusionary practices at the secondary level. One of the greatest challenges of inclusion is to maintain the ability to meet the unique individual needs of the students with disabilities (McDonnell, Mathot-Buckner, Thorson & Fister, 2001). Cooperative learning strategies allows students to play multiple roles, one of which is instructor, and sets the stage for appropriate models of behavior.

A complaint often heard from special education teachers is the lack of time to meet the individual need of their students with disabilities. Many teachers in inclusion classrooms teach the general education curriculum to everyone, but fail to go back and provide students with disabilities

the opportunity to make progress according to their individual needs. McDonnell, Mathot-Buckner, Thorson and Fister (2001) suggest that a “potential advantage of peer tutoring (cooperative learning) programs are that they create a structure that allows the teacher to tailor instruction to the needs of individual students and provide a higher number of instructional trials in one-to-one or small group teaching formats (p.141-142)”. Cooperative learning activities allow a teacher to focus instruction, but at the same time not take away from the needed instruction of that topic. Students have more opportunities for practice with their peers and are provided with more immediate feedback on their progress. This increased time spent being actively engaged in learning activities has been shown to produce higher rates of learning (O'Melia & Rosenberg, 1994). The teacher's role shifts to monitoring student progress and provide more individualized instruction to those who need it.

In reviewing the available literature, one requirement was for research that took place in the secondary setting that involved students with disabilities. The use of an inclusionary setting was a secondary requirement and did not preclude the use of a study in this review. A search was conducted in Psych Info and ERIC using the following key terms: cooperative learning, secondary, inclusion, single subject and special education. Results were limited to journal articles that were research based and peer edited. This search resulted in studies that included a wide range of disabilities, from mild to more severe, and we even obtained studies conducted in inclusion classrooms. The cooperative learning strategy used in the studies involved reading and mathematics curriculum, as well as its use with home learning. In addition, one of the studies monitored the teacher's implementation of cooperative learning. The types of designs used in the studies included in this review ranged from qualitative research combined with classroom observations to single subject multiple baseline designs. Some of the studies included control groups while some used an alternating treatment design, where two interventions were compared. The flexibility of the designs used were based on the goal of the study and what the researchers where trying to prove.

Four of the studies focused directly on classroom instruction, and provided insight into implementation of cooperative learning into the curriculum of a secondary inclusion classroom. The first study by O'Melia & Rosenberg (1994) investigated the effects of cooperative homework teams on the acquisition of mathematics skills by secondary students with mild disabilities. The study was conducted with 179 middle school students in grades 6 – 8. All the students were identified with having a mild disability – learning disabilities (LD) or emotional disturbance (ED). The independent variables that were implemented and compared over an 8-week period were: Cooperative Homework Teams (CHT) and a control condition (C). The dependent variables were 3 outcome data sources: rate of homework completion, percentage correct on homework assignments, and global mathematics achievement.

O'Melia and Rosenberg (1994) indicated that “CHT is an effective process that increases the quantity and quality of students, homework products” (p. 8). The students benefited from the immediate feedback and the social interactions with their non-disabled peers. Students in the CHT groups increased the rate of their homework completion by 12.5%, and increased their percentage correct by 10.4%. Unfortunately, the results did not show a significant influence on math achievement.

McDonnell, Mathot-Buckner, Thorson, and Fister (2001) researched the effects of class wide peer tutoring, multi-element curriculum, and accommodations on supporting of inclusion of students with disabilities in secondary general education classes. While being included in ** students with disabilities were exposed to a multi-element curriculum which allowed them to obtain instruction in various objectives within the same curricula as their non-disabled peers. Accommodations were used to allow teachers to meet the individual instructional needs of all their students.

The study was conducted in a junior high school in a large urban school district. The participants included three students with moderate to severe disabilities, three students without disabilities, one special education teacher, and three general education teachers. A multiple base line design was used to track the dependent variables: academic responding and competing behaviors. McDonnell et al. (2001) indicated that "a class wide peer tutoring program, combined with multi-element curriculum and accommodations, improved levels of academic responding and decreased levels of competing behaviors by students with moderate and severe disabilities enrolled in junior high school general education classes" (p. 157).

Fuchs, Fuchs, and Kazdan (1999) investigated the effects of peer-assisted learning strategies on high school students with serious reading problems. The basis of the study was to pair higher and lower performing students in general education settings to work on structured reading activities using the cooperative learning strategy of peer-assisted learning strategies (PALS). Each PALS session was comprised of: partner reading, paragraph shrinking or summarization, and prediction relay. Participants included 18 special education teachers in remedial reading high school teachers in 10 high schools within a metropolitan district. Nine of the teachers implemented the PALS and nine who continued with traditional teaching which did not comprise including cooperative learning strategies. Fuchs et al. (1999) reported mixed results. First, students in the PALS treatment group improved their reading comprehension scores statistically significantly more that did students in contrast classrooms. Second, participants' reading fluency failed to improve differentially as a function of PALS participation. Third, PALS appeared to have no significant difference between groups' general attitudes towards reading.

The PALS method was designed for the elementary setting and was adapted in this secondary school setting. The researchers indicated that PALS did not keep the interest of the secondary students and lost its novelty quickly. The implementation of such strategies at the secondary level will require high-interest, low-vocabulary materials and a system of reinforcement seen as important by this age group.

Carter, Cushing, Clark, and Kennedy (2005) studied the effects of peer support interventions on students' access to the general curriculum and social interactions. The premise of this research was to implement peer support interventions which are designed to supplement the use of paraprofessionals with non-disabled peers. Peers without disabilities are trained to provide students with profound disabilities the academic and social support they need. Previous studies found that peer support interventions increased social interactions, decreased behavior issues and increased the acquisition of functional skills. Carter et al. (2005) investigated the impact of altering the number of peers without disabilities who provided the peer support interventions for students with disabilities.

The participants were three students with disabilities that ranged in age from 12 to 17 years old. In addition, six general education students provided the peer support interventions. All the participants attended a middle or high school located in a suburban school district. The dependent variables were academic and social outcomes of the students with disabilities. The independent variable was the number of peers who provided the support interventions. The study used an alternating treatment design where they fluctuated between one or two peer supporters as partners. Carter et al. (2005) indicated the following results. First, changes in the configuration of peer support arrangements differentially affected student outcome, with higher levels of social interaction and contact with the general curriculum observed when students with disabilities worked with two peers instead of only one. Second, alterations in the number of peers did not, however, affect students' interactions with other classmates.

Discussion

Overall the research indicates that cooperative learning and partner learning are effective for students with disabilities. The research reviewed both student academics and social behaviors, but seemed to emphasize social behaviors. Identifying research that deals with secondary education students was a challenge, and more emphasis needs to be placed on the benefits in academics. At the secondary level, the emphasis is heavy on academics, which includes students with disabilities, especially if it is considered a mild disability. We were able to find a study that deals with reading instruction, but with the emphasis being placed on reading one would expect to see more investigations in this area.

In this reviewer's opinion, the goal is to take into account the real world obstacles that teachers face when trying to implement cooperative learning strategies. For example, prior knowledge may influence how teachers interact with cooperative learning. To verify the impact of specific structures, only one type of cooperative learning structure should be emphasized -- having students working together towards a common goal. The structure of a cooperative learning strategy program is not as important as the flexibility and adaptability of the strategies. The flexibility of implementing cooperative learning strategies is seen as a factor to the success of its use. If a program is too structured, it will be more difficult for teachers to implement, and will make it difficult for the study to be replicated across a large urban school district.

A more rigorous test on the impact on academic improvement is imperative. The number one goal of education is to increase the academic knowledge of students. The use of any strategy must be directly tied into the academic performance of students. Basically the use of any strategy must stand up a comparison of the benefits of implementing the cooperative learning strategies (academic improvement) versus the time it takes to implementing the strategy.

In the elementary school setting, it is very common to see the implementation of inclusion classrooms that take advantage of cooperative learning strategies. It is a universal belief that these strategies are more popular due to the fact that it is easier to implement, and the fact that the students have fewer teachers and options that have to be addressed. Students with disabilities in the elementary setting benefit from small group instruction, and when not in direct contact with the teacher they have the benefit of working with their non-disabled peers. Teachers also have the advantage of seeing their students perform in more than one subject area therefore allowing them

to identify areas of strengths as well as opportunities for improvement.

In contrast, secondary settings are more segmented and institutionalized. Teachers see more students on a daily basis, and do not have the advantage of seeing their students in various areas. More traditional teaching methods are used, such as lecturing and independent work. Students with disabilities who are involved in inclusionary settings are usually exposed to the general curriculum, but do not have the advantages of accommodations and modifications that they were use to in the elementary settings. The use of cooperative learning strategies could allow students to get more frequent feedback on their specific performance in a timelier manner. In addition, teachers would be able to take advantage of the cooperative groups to meet the individual needs indicated on the student's individualized education plans.

Research Questions

The reviewer proposes that a study be designed to evaluate the effects of cooperative learning on academic performance of secondary students in inclusion settings. The goal is to enhance the research in the area of cooperative learning strategies and provide a proven framework that can be used to increase the academic performance of students with disabilities in the secondary general education classroom.

A multiple baseline design across 3 senior high teachers' classrooms will

- (1) assess teacher implementation of cooperative learning groups and
- (2) track progress of low and high performing students.

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The Effects of Positive Reinforcement on Oral Reading Fluency in Low-performing Elementary Students.

Laura Cruz

Oral reading fluency is an essential building block in the process of learning to read. "Empirical studies have consistently demonstrated a strong positive correlation among oral reading fluency, reading decoding, reading comprehension, and on-task-behavior" (Eckert, Ardoin, Daly, & Martens, 2002, p. 271). Furthermore, oral reading fluency and phonemic awareness have been identified as the fundamentals of proficiency in early readers. In addition, two types of positive reinforcement, contingent reinforcement and performance feedback, have proven beneficial in academic settings. Studies have shown that positive reinforcement is an effective treatment for improving overall reading performance. Thus, it would seem logical that more research should be conducted on the benefits of positive reinforcement on oral reading fluency, particularly in low-performing populations who have the potential for the most significant gains (Eckert et al., 2002).

The articles described in the literature review provided much useful information on the effects of positive reinforcement on oral reading fluency in low-performing elementary school students. Furthermore, the effects of other treatments for oral reading fluency were also assessed separately and in conjunction with positive reinforcement throughout the articles. The articles were retrieved using PsycINFO and the *Journal of Applied Behavioral Analysis* (JABA) search engine. Search criteria for the articles included the keywords oral reading fluency AND positive reinforcement. In the advanced search criteria the target population was also defined as elementary school students. To further narrow search, only peer-reviewed journals were selected.

Literature Review

Daly, Chafouleas, Persampieri, Bonfiglio, and LaFleur (1998) conducted a study examining the effects of several treatments on oral reading fluency via a multielement design. The subjects included three elementary school students, Fred, Ty, and Mattie, grades 5, 3, and 6 respectively. All the students were in general education classrooms, and their teachers had recommended each for intervention due to their poor fluency rates. The number of words read correctly per minute in both generalization and instructional passages served as a measure for the study (dependent variable). Instructional passages were those that were drawn randomly from the Silver, Burdett, and Ginn basal reading series at the second, third, and fifth grade level. Only narrative and expository passages were used. For generalization passages, passages that contained a large percentage of the same words in a corresponding instructional passage were used. Words were considered as read correctly when it was pronounced the right way within three seconds. The independent variables, treatments, in this study included: contingent reinforcement for rapid reading, repeated reading, listening passage preview, phrase drill, and error correction. Varying combinations of these treatments were also observed. Prior to collecting data on the treatments effect, baseline information was gathered on each of the participants. For the contingent reinforcement condition, students were asked to rate reinforcers, first, second, and third, in order of their preferences prior to beginning this phase. In this condition, if students read 70 words per minute for the second and third grade passages or 100 words per minute for the fifth grade passage, they could receive their first choice reinforcers. If they read approximately 70 words per

minute or 100 words per minute for the respective passages, then students received their second ranked reinforcer. If the subjects read under 70 words per minute or 100 words per minute for the respective passages, then students received their third ranked reinforcer.

The results of the study varied across subjects indicating that different interventions have varying effects on different students. Simply stated, what works for one person, might not work for another. In Fred's case, repeated reading proved the most helpful. In Mattie's case, none of the interventions alone proved helpful across both passages. Thus, various interventions were combined but still no significant gains were observed across passages. Researchers then concluded that, in Mattie's case, repeated reading proved the most helpful only when instructional material had a high content overlap, a generalization strategy. In Ty's case, oral reading fluency did not increase with any of the initial interventions either. Again interventions were applied in conjunction with one and other in order to improve oral reading fluency. Researchers found that the most improvement was noted in Ty's oral reading fluency when the listening passage preview treatment was used in conjunction with phrase drill.

This study proved to be a fair example of the multielement design. It was applied because it took place in a school setting. It was behavioral, because the behavior of oral reading fluency was clearly defined and is of social validity. It's reliable because interobserver reliability was collected 72% of sessions and yielded a mean of 95%. The study also did a fair job of illustrating the effect of positive reinforcement on oral reading fluency, however, perhaps too many other factors were also assessed. The study did, however, have several limitations. Because, of the small number of participants included in the study, it is difficult to determine which intervention truly work best for low-performing elementary school students. Furthermore, students were included in the study based solely on teacher recommendation but the article makes no mention of prior testing or evaluation of these subjects. Thus, it is possible that some of the subjects have specific learning disabilities or other disorders that could yield in varying results. Furthermore, it is difficult to determine a true functional analysis since researchers never returned to baseline and so many varying treatments were implemented.

Noell, Gansle, Witt, Whitmarsh, Freeland, and LaFleur (1998) used a multiple baseline design across three levels of reading materials to assess the effects of contingent reward and instruction on oral reading fluency. The participants were three boys, Glenn, Mike and Jack, enrolled in a summer program for children with ADHD. All three boys were about to enter the fourth grade, had average intellectual functioning, and had parents who were concerned about their reading skills. The dependent variable was the median number of words read correctly per minute and the participants read from three passages within each session. The subjects were given grade-level material as well as material from the two preceding grades in order to assess their fluency gains. Contingent reward was applied first, then reward, then modeling, and then practice if median words per minute were not in the mastery range. For contingent reward, the participant received tokens if his median words per minute exceeded that of his previous session without any error increase. Modeling and practice sessions began with the experimenter reading the passage to the student, then the student practiced reading the passage once with the experimenter correcting any errors, and finally a timed reading of that passage was obtained.

Results of this study indicated that contingent reward was only moderately effective for all three boys. It was only when modeling and practice were added to treatment that continuing gains were illustrated.

The study was a fair example of a multiple baseline design and provided a good example of the effects of positive reinforcement on oral reading fluency. It assessed interobserver reliability 33% of the sessions and averaged 98.4%. It is difficult to determine a true functional relationship from the study, however, because sequence effects and practice effects could have skewed results.

Daly, Martens, Hamler, Dool, and Eckert (1999) conducted a multielement study with four participants, Michelle, Jill, Jacob, and Stephen, in general education classes who had been referred for reading problems. Teachers referred two of the students, and parents referred the other two. The dependent variable was the number of words read correctly per minute. The treatments included reward for rapid reading, repeated readings, sequential modification, easier material, and listening passage preview. Mastery rates for reading passages were based on grade-level criteria. Following the collection of baseline data, interventions were introduced successively based on time and effort required to implement each.

The results indicated that Stephen and Jill showed significant improvement in the repeated reading and sequential modification condition. Michelle's best oral reading fluency improvements occurred during the listening passage preview, repeated reading, and sequential modification condition. Jacob did best during the listening passage preview, easier material, and repeated reading condition.

This particular study illustrated a strong research design and was a fair example of the effect of positive reinforcement on oral reading fluency. It was reliable with an IOA mean of 97% in all sessions; applied as it was conducted in a school setting; socially valid due to measuring oral reading fluency, a skill needed to excel in school, and functional because a return to baseline was established in between each treatment. The only limitation of the study was that the long-term effects of the intervention were not noted.

Eckert, Ardoin, Daly, and Martens (2002) conducted a study on the effects of contingent reinforcement, performance feedback, listening passage preview, and repeated readings on oral reading fluency. Contingent reinforcement and performance feedback were viewed as consequences, meanwhile, repeated reading and listening passage preview were viewed as antecedents. The effects of these independent variables on the dependent variable of words read per minute were examined alone and in conjunction with one and other. A multielement design was used in which baseline and treatment observations were alternated. The subjects of this study were six elementary school students, Hunter, Stephen, Bethany, Mason, Vilna, and Alison having trouble reading at their grade level. All of the subjects failed to demonstrate mastery of reading at their grade level (did not read enough words per minute according to grade). The results of the study indicated that combining antecedent intervention with either of the two consequences produced the greatest gains in oral reading fluency. Stephen's reading fluency increased most when contingent reinforcement was added, whereas, Mason and Hunter's oral reading fluency improved most with performance feedback only. Alison's reading fluency was influenced equally by both interventions.

No participants improved further when both consequences were combined. Vilna and Bethany needed only antecedent intervention to show improvement in oral reading fluency.

Overall this study provided a good example of research in the area of oral reading fluency and positive reinforcement. It showed a good functional relationship between oral reading fluency and the independent variables, both antecedents and consequences. Furthermore, it was reliable with an IOA mean of 98% and socially valid. One limitation of the study is that the researchers failed assess students on their reinforcer preferences so it is not known whether or not the reinforcers were actually reinforcing.

Bonfiglio, Daly, Martens, Lin, and Corsaut (2004) conducted a study on a third grade girl named Camille using a multiple probe design across tasks (six passages). This particular study was conducted in an after school program and aimed at improving Camille's oral reading fluency. Baseline data was collected and then the effects of three treatments were examined. Camille was exposed to all three treatments daily during treatment weeks and exposed to none during baseline weeks. Performance-based treatment relied on the use of tangible items such as pencils, small games, and markers for achieving quantitative performance goals (positive reinforcement). Camille was allowed to chose items from a reward box after meeting goals. The next treatment was skill-based treatment in which Camille received immediate feedback after reading a passage and she was able to read the passage twice while receiving error correction. The third treatment was the combined use of skill-based and performance-based treatments. Interobserver agreement was collected for 60% of the sessions and averaged 96%. Furthermore, baseline was collected between treatments and maintenance data was collected as well. The greatest gains were observed during the combined treatment phase. Thus, "the results of this study attest to the efficacy of both treatment components in improving reading fluency and in promoting maintenance following instruction" (Bonfiglio, et al., 2004, p. 114).

Overall, this study proved to be an excellent example of the effects of positive reinforcement on oral reading fluency. The study used a solid single subject design and showed a strong functional relationship by returning baseline and illustrating maintaince. In addition, it was reliable, applied, and behavioral. The one limitation of this study, however, is that because Camille was exposed to three treatments a day there may have been some multiple-treatment interference that was unaccounted for.

Because phonemic awareness goes hand in hand with oral reading fluency, it is important to consider it as well. The two are parallel skills that occur almost in conjunction with one and other. Together, oral reading fluency and phonemic awareness, account for the ability to read. In one study by Daly, Chafouleas, Persampieri, Bonfiglio, and LaFleur (2004), two first graders having reading difficulties were examined on their phonemic awareness in their school setting. The subjects, Peter and Cyrus, were given word lists (i.e., Dolch Words) with three of four phonemes. If words in the list were identified, then their letters were mixed up to into nonsense words. Thus, each real word had a corresponding nonsense word. The dependent variable was the cumulative number of words mastered from the pool of unknown words. Subjects were given five seconds to respond and mispronunciations, failure to reply, or failure to reply within five seconds constituted an error. The researchers used an ABAB design alternating between sight-word condition and phoneme blending condition. The sight-word condition was the control and the phoneme blending condition had subject read all the phonemes of a word and then blend them together to read nonsense word. In addition, participants were praised for correct responses. Interobserver agreement was collected in 30% of the session and had an average mean of 97%. Treatment integrity was also reported. The results showed that the phoneme blending condition had significant effects. Cyrus went from 1 word in the initial sight-word condition to

12 words mastered in the phoneme blending and a total of 16 in the second phoneme blending condition. Peter improved as well, mastering 13 words in the first phase after phoneme blending and then a total of 23 in the second phase of phoneme blending.

This particular study was a poor example for illustrating the effects of positive reinforcement on oral reading fluency. The researchers failed to have a control condition in which praise was not administered to examine its effects. The study was, however, a good example of an ABAB design because it was reliable, functional, socially valid, applied, and behavioral.

Research Question

In order to examine the effects of positive reinforcement on oral reading fluency in low-performing elementary students, a single subject research design is proposed. The study should compare a baseline condition, a contingency reward condition, and a performance feedback condition, in order to determine which type of positive reinforcement has the greatest impact on oral reading fluency. Thus the question should be:

Which type of positive reinforcement, contingency rewards or performance feedback, has the greatest effect on oral reading fluency in low-performing elementary school students?

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Effects of Homework Monitoring on Weekly Test Scores for Children with Specific Learning Disabilities

Monica Gutierrez

Homework has historically concerned educators, parents, and students alike. Most agree homework should further facilitate learning, promote the development of strong study and organizational skills, and encourage students to become self-disciplined, independent learners. However, with increased inclusion of children with disabilities in regular classrooms, educators along with parents face significant challenges. For students with disabilities, homework may create difficulties. Some of these problems are related to students' ability to maintain attention, sustain levels of motivation, demonstrate effective study skills, and minimize levels of frustration (Bryan & Burstein, 1997). Other factors include the quality of communication between school and home and how homework is assigned.

The role of homework has been part of the educational system since its early times. Teachers and parents feel that completing homework helps students take responsibility for themselves and develops character and personal management skills (Bryan & Burstein, 1997). According to research studies conducted by Cooper and Nye (1994), homework accounts for roughly 20% of the time students spend on academic tasks. Yet, students continue to struggle. Researchers estimate that 28% of students in general education classrooms and 56% of students with learning disabilities have difficulty in completing homework (Bryan & Burstein, 1997). Munk, Bursuck, Epstein, Jayanthi, Nelson, and Polloway (2001) found parents and teachers described students with behavior problems and students with learning disabilities as having the following difficulties with homework: procrastination, needed to be reminded, needed to have someone in the room, tended to daydream, and were easily distracted.

Because homework accounts for one fifth of the time that successful students engage in academic tasks and because many students experience problems, educators and parents must help acquire skills for doing schoolwork at home. Research studies have examined interventions for improving children's homework performance. Using Wilson web, articles were found where researchers examined interventions for improving children's homework performance. The key words used were homework, monitoring, and single subject research.

Literature Review

Existing research generally supports the relationship between homework and student achievement. Homework completion and accuracy appear to be continuing sources of concern for parents and teachers. There have been few studies directed at improving methods by which children approach or complete homework (Olympia, Sheridan, Jensen, & Andrews 1994). Olympia et al. (1994) examined the combination of self-management with group oriented contingencies effects on improving homework completion and accuracy. A student-administered intervention that combined aspects of cooperative learning, self-management and interdependent group oriented contingencies was implemented within a regular classroom setting. Furthermore, student motivation, consumer satisfaction, and treatment integrity were inquired along with the contribution of self-selected goals. The following is a critique of the study.

Ten males and six female students in 6th grade mathematics participated in the study. For comparison purposes data was also collected for thirty-seven other students enrolled in 6th grade mathematics that did not participate in the study. The dependent variables were: completion of math homework assignments, accuracy of the problems, and math achievement and generalized skills. In addition, the researchers investigated motivation and consumer satisfaction.

Counting the number of days per condition that an arithmetic worksheet was returned by each subject and calculating a percentage comprised the measure to assess the completion of homework assignments. The accuracy of arithmetic on homework worksheets included only correct responses on each returned homework for each subject. Accuracy was also assigned a percentage. Achievement and generalization of math skills were assessed differently. The Woodcock Johnson Psycho-educational Test Battery was given to each subject before and after the intervention to measure achievement. Curriculum based questions were used to assess generalization of math computational skills. Questions were randomly selected from seatwork assignments and students were provided opportunities for practice and review of a specific concept taught in class. Generalization data was collected twice during baseline and twice during the intervention phase.

Motivation was assessed by extra practice problems attempted by each student. A questionnaire designed to evaluate the appropriateness and acceptability of the of classroom treatment strategy. The questionnaire was adapted from Behavior Intervention Rating Scale (BIRS, Elliot & Von Brock Trueting, 1990, cited in Olympia et al., 1994) and used a 6-point Likert scale. At the end of the study, parents evaluated the difficulty of the homework assignments before and after the intervention and also completed a brief 24-item questionnaire adapted from the BIRS. The students also completed two questionnaires regarding their participation in the study.

The researchers used four self- management operations (self monitoring, self instruction, self evaluation, and self reinforcement) in cooperative settings. The subjects were divided into teams and given distinct roles of coach, score keeper, and manager. Random team role assignments were given to each team member. The study appeared highly reliable and valid. Two reliability scores were obtained for each team during treatment. Inter-observer reliability averaged 86%. A second independent observer also scored assignments.

Olympia et al. (1994) found that improvements in homework completion over baseline performance occurred for the majority of the subjects in homework teams. Data on homework accuracy was variable and mixed; however, students who participated in the self -management training demonstrated significant gains on standardized measures of academic achievement. Students were able to implement self- management procedures reliably for nine out of 12 specific steps in the procedure. Students who participated in homework teams completed fewer extra practice problems. Parents, teachers, and students responded positively to consumer satisfaction measures.

Overall this was a good example of a single subject research design. Researchers used reliable and valid methods. The measures were socially valid. The research outcomes show a promising trend to self-management and cooperative groups as interventions. In addition measures of generalization to classroom performance were obtained. In other words, the study was applied (taking place in both home and classroom), behavioral (with reliable measures), analytic,

generalizable) which comprise the basic criteria for good single subject design.

A similar study conducted by Miller and Kelley (1994) investigated the efficacy of goal setting and contingency contracting for increasing children's homework performance. The researchers reviewed studies on homework and concluded that time spent on homework was a top predictor of student grades and achievement (Miller & Kelley, 1994). After reviewing the studies, they suggest many of the studies had methodological shortcomings, including failure to obtain treatment integrity, failure of control-group subjects to improve following treatment, and use of laboratory settings (1994). Further investigation of interventions for improving homework performance is needed.

Miller and Kelley (1994) used a combination of multiple baseline and reversal design to examine the effect of goal setting and contingency contracting on four parent-child dyads in which the child exhibited homework problems. The participants were a 9-year-old 4th grader, a 10-year-old 5th grader, and two eleven year old 5th and 6th graders from white, middle to upper middle socioeconomic status families. Miller and Kelley (1994), hypothesized using these interventions would increase the students' work accuracy and on task behavior and improve their scores on a standardized checklist measuring homework problems.

The measures included a homework problem checklist (HPC), which is completed by a parent. The checklist is designed to assess homework problems, accuracy of completed homework (calculated by parent daily and an inter observer agreement was conducted randomly once a week by an independent observer), on task behavior (observed by trained graduate students 4 days a week, with a treatment integrity checklist (observers completed a brief check list following each observation), parent questionnaire (non standardized measure of consumer satisfaction that included overall rating treatment program); follow up interview (unstructured interview conducted by experimenter to assess and identify strengths and weaknesses of the intervention).

The results showed an increase in accuracy on classroom work for all subjects. For three out of four, participants increased the stability of responding across treatment phase (Miller & Kelley, 1994). Results of treatment efficacy were less clear. Only two of the four participants showed clear increases in the percentage of on task behavior. Parent responses to the homework completion checklist clearly improved for only one subject. The parents evaluated goal setting and contingency contracting as a fair and appropriate intervention for homework difficulties and expressed satisfaction with their child's progress. However, Miller and Kelley (1994) pointed out that the failure of some parents' HPC scores to reflect these responses were contradictory and called for further investigation of the social validity of the results.

There are several limitations to the experiment. There were no clear results indicating an increase in efficacy or generalizability of math skills. In addition, interventions were implemented simultaneously, so it is impossible to determine whether either treatment component would have been effective in isolation. Further investigation on the effectiveness of the intervention needs to be completed.

Madaus, Kehle, Madaus, and Bray (2003) conducted a study in which homework was examined as an independent variable investigated whether a mystery motivator could be used to promote homework completion and accuracy). Madaus et al. (2003) set out to determine the

effectiveness of a mystery motivator as a means to remedy homework accuracy and completion.

The researchers used an ABAB design: first baseline, then the intervention with 3 phases, then a return to baseline, and finally the intervention reinstated. Five 5th grade students (1 female, 4 male) from two general education mathematics classrooms, who were characterized as having a history of homework completion difficulty participated in the study. Madaus et al. (2003) measured the frequency of math assignment completed and accuracy for each student. Madaus et al. (2003) also measured the social validity and desirability of the intervention using a questionnaire given to the teachers. The participants completed a chart to monitor homework completion and accuracy. The rules for receiving the mystery motivator as reinforcement included: a) homework completed and handed in on time daily; b) must receive at least 80% correct; c) if both of these done, you can lift the tab for the day; d) if there is an "M" under that tab, you get the mystery motivator in envelope. Four out of five students showed improvement in completion of math homework and three out of five students showed improvement in accuracy of homework problems. Madaus et al. (2003) concluded that the mystery motivator was effective for all students for completion and/or completion of homework assignments in mathematics. Teachers rated the intervention positively given a scale of 1-5. The likeliness to use the intervention in the future averaged 3.0 and likeliness of sharing the intervention with other colleagues averaged 3.5.

While the study appeared to be valid (a specific protocol was given to teachers to avoid treatment drift), the study lacked reliability. The researchers mentioned the use of an inter-observer agreement; however, they used the participants themselves. A stronger design can be established by including better measures of reliability. Also, the researchers did not address generalization of the skills to other subjects or other levels of students (i.e., ELL, special education, advanced, etc.)

Conclusions

Research shows that homework plays a significant role in education. Researcher Harris Cooper, one of the most prolific researchers of homework and its effect on students' academic achievement, concretely identified many positive and negative effects homework has on students and families. According to Cooper and Nye (1994), the positive effects of homework can be organized into four categories: immediate academic effects, long-term academic effects, nonacademic effects, and effects of parental appreciation and involvement. Even though homework is a valuable contributor to student achievement, students, educators, and parents continue to encounter difficulties in homework performance.

For students with disabilities, homework may pose even more significant challenges. The studies suggest homework interventions have a positive effect on completing homework and accuracy of homework. However, the literature suggests a need for additional studies that address students with disabilities. Although there is research showing the benefits of interventions for increasing homework, few studies have been conducted that examine specific interventions addressing difficulties encountered by students with disabilities.

Research Question

This study will explore the effect of homework monitoring on seventh grades students with specific learning disabilities. Research suggests that students with disabilities demonstrate difficulties with homework. The question to be investigated in a future study is: What effects does homework monitoring have on weekly test scores for seventh grade children with specific learning disabilities?

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The Effects of Various Reading Methods on Reading Fluency of Elementary Students with Learning Disabilities

Scott Harris

Reading is a critical academic skill and continues to be a leading topic around the country. Thus, assessments are needed to assist educators screen, monitor, and diagnose student reading skills. Many children with learning disabilities find their greatest area of stress in reading. More specifically, their reading is labored, thus making comprehension of material an arduous task. Without intensive intervention programs for such children, their educational path is likely to be that of great stress and difficulty. "Skilled decoding that permits full access to text meaning" (Shinn, 2002, p. 721) is what such children require. Lack of intervention is likely to lead to grade retention and ultimately dropping out. It is imperative to intervene with this specific population of students as early as possible in hopes of a successful educational future.

Reading is one of the most critical academic skills students learn. This, with the national attention that reading is receiving tells indicates the great importance of finding assessments to identify and begin treating students early in the elementary years (Hosp & Fuchs, 2005). Programs that are structured and focus on decoding and fluency will provide the necessary tools for students with reading difficulties to become successful readers.

The following articles report some of the effects of reading interventions as they relate to fluency skills. The articles were located using Florida the Florida International University library databases. PsychInfo and Eric produce the most relevant journals. Keywords entered included "children and reading fluency," "reading and learning disabilities," "children and reading problems." Subscriptions to current educational and psychological journals also served as sources for identifying the current topic.

Critique of the Studies

Hosp and Fuchs (2005) assessed whether the relation between curriculum-based measurement (CBM) and specific reading skills changes as a function of grade. There have been several studies on the relationship between CBM and criterion tests of decoding, word reading, and comprehension. Shinn (2002) looked at the relationship between CBM and these three sub skills with students in general and special education classes in grades 3-5. The results found that the correlations were higher in grade 3 on all three sub skills than at grade 5. The purpose of the current study was to identify students who may be in need of further instructional support.

Participants included 310 English-speaking students in 16 classrooms in four schools (four at each grade level, first through fourth). Students who returned the consent forms (signed) were 18 students in each classroom; approximately 80 students at each grade. Eight CBM reading passages were administered (2 at each grade level). The passages were not from the student's grade curriculum (Basals) but were designed to represent the grade level text. The average number of words read correctly in 1 minute across the two passages was used as the CBM score. Test-retest reliability on the CBM passages was assessed during a random sample of approximately 30 students at each grade level. These students were retested during a third session, with at least 1 week but no more than 3 weeks between the test-retest sessions. Test-

retest reliability for the CBM passages at each grade level were above the 90th percentile. Research assistants were trained on administering CBM and the three subtests of the Woodcock-Johnson Psycho-Educational Battery. They were trained until 100% agreement was achieved. Percentage agreement was calculated using the simple formula.

This quantitative research study looked at the relation between CBM and specific reading skills as a function of grade. Thus, the independent variable was moving up grade levels (1st-4th) and the dependent variable was the change in reading scores. The authors concluded that as students increased in grade, the CBM scores that corresponded with mastery of the three subtests increased as well. Second, they stated that CBM is appropriate for monitoring reading skills. Scoring the average number of words correctly in one minute is common method and is time efficient. However, I would have liked to see each student read 3 passages rather than 2 passages. Two passages cannot provide enough information about the child. A possible threat to external validity would be the measurement variables. I'm not convinced this study can take what it has found and generalize it based on finding the mean between two reading passages rather than finding the median of three passages. However, the sampling and quality of measurement and data collection are excellent.

Graney and Shinn (2005) examined the effects of teacher feedback from Reading Curriculum-Based Measurement (CBM) progress for low performing students in the general education classroom. Curriculum-Based measurement is a set of standardized procedures for collecting student data in the basic skill areas such as reading. R-CBM has empirical support for its validity as an overall indicator of general reading competence (Hosp & Fuchs, 2005). The research to date of R-CBM in formative evaluation in general education is limited. This study addressed the following research questions: (a) does feedback to teachers on the progress of their lowest reading group affect the reading achievement for those students, (b) does feedback to teachers on the progress of an individual student in the lowest reading group affect the reading achievement for that student only, and/or the achievement of the entire low reading group? The researchers hypothesized that teachers who received feedback on the progress of the entire group would be more likely to improve student performance than teachers who did not receive feedback on the progress of the entire group. Also, teachers who received feedback on the progress of an individual student were hypothesized to improve that student's performance than teachers who did not receive the feedback.

Participants were 44 second grade teachers and 184 students in their low reading groups. A 2 x 3 mixed effects design was used to examine the effects of feedback to teachers on reading achievement. The two independent variables were type of feedback and level of aggregation. Feedback consisted of either group feedback, individual feedback, or no feedback. Level of aggregation was a within-subjects variable with two levels: individual slopes and group slopes. The dependent measures were student's reading progress measured according to standardized R-CBM procedures. Passages from the TORF (Test of Oral Reading Fluency) were used to measure reading. Six undergraduate students were data collectors. They were all trained to administer and score the R-CBM. They were considered reliable enough to collect data when they agreed with the researcher at least 95% of the time. All the data collectors were 100% reliable with the researcher on the final passage at the end of the session. Random reliability checks were conducted and each time the data collectors met the 95% reliability standard. After 5 weeks of progress monitoring, teachers in the two experimental groups were given progress results of all students in

the reading group or a single student in the reading group. Teachers in the control group received no progress monitoring feedback.

The results did not support the hypothesis. It did not matter if feedback was given on the group or an individual student because neither type of feedback was associated with higher levels of achievement over the groups where teachers received no feedback. The progress of the groups as a whole did improve over time, however. A similar finding by Shinn et. al. (1997) found that students in general education classrooms made minimal progress during the first four weeks but then showed growth from the fourth week until the end of the study. The quality of teacher feedback needs to be more descriptive and more prescriptive. Teachers also need follow-up support in implementing changes to their instruction. This is where the role of a school psychologist comes in. A limit to this study is that participating students were also receiving additional reading support outside of the general classroom. Again, levels of support for teachers is so important when dealing with struggling readers. This study provided very little support for the educators who participated. Lack of school personnel/other resources could have affected the results. The authors concluded that because all three groups improved during the second half of the study with reliability that there may be reactive benefits of progress monitoring.

McDowell and Keenan (2001) examined the effects of a teaching method on skill fluency and on-task endurance of a young boy with attention deficit hyperactivity disorder. Many educators that are fluency oriented such as precision teachers say that "attention span or endurance is a byproduct of behavioral fluency, which is defined as the combination of speed plus accuracy" (Binder, 1996, p. 165). Precision teaching (PT) involves repeated practice, error-correction procedures, timed drills, and the use of the standard celeration chart. Data from precision teaching classrooms indicate that until students reach certain minimal levels of fluency, they cannot maintain a stable performance for periods of time. However, according to the authors, when learners do reach fluency, they are able to work for extended periods of time and maintain high levels of responding.

The participant was a 9 year old boy with ADHD. Sessions were conducted one-to-one for 20-30 minutes and took place two afternoons per week after school. The subject received 5 mg of methylphenidate three times per day throughout the study. The subject was reported as not being able to sustain on-task behavior for any substantial period. The dependent variables were the number of letter sounds that were identified correctly and incorrectly per minute and the time spent on task. Correct responses were defined as a correct vocalization of the letter sound displayed on a flash card. An incorrect response was defined as an incorrect vocalization to a card or missed card. Time spent on task was defined as time spent engaged in sounding letters. Any other behavior that occurred while the timer was running was considered as time spent off task. During baseline and reversal, the number of correct and incorrect responses made during each minute of the 10 minute session were recorded. The highest 1 minute score from each 10 minute session was reported. During the intervention, scores were recorded for each timing and the highest score was reported for that session. Fluency goals were chosen from performance standards by the Great Falls Precision Teaching Project and were set at 60 to 80 sounds per minute. Interobserver agreement checks were conducted at 17% of the sessions. Scores were calculated by comparing two observers' recordings of correct and incorrect responses. Interobserver agreement averaged 97%.

The baseline condition consisted of four 10 minute sessions. No practice or instruction took place during baseline until the end when the subject was told how many correct and incorrect responses he made. During intervention, the participant was told to practice sounding letters before timing began. Verbal prompts were offered and feedback was provided for responses. For letters that were identified incorrectly, an error-correction procedure was followed where these responses were practiced further until no errors occurred. Once the fluency goal had been reached, reinforcement was contingent on correct responses remaining at that goal level. The reversal phase went through the same procedure as baseline when no practice was allotted before timing began. Three reversal sessions were conducted.

Results showed that the participant spent 50% of each 10 minute session on task during baseline. The intervention resulted in an immediate increase in correct responses and a decrease in incorrect responses. The subject remained on task for 100% of these sessions. These findings are consistent with a study previously conducted by Binder (1995) in that increases in fluency are associated with increases in on-task endurance. The results also show that the reversal to baseline when fluency goals had not been met resulted in a decrease in the rate of correct responses. This study leaves the question of whether fluency has an influence on endurance or the intervention was that potent that both intervention and endurance improved. Overall, this was a well-done single subject research study.

Deno, Fuchs, Marston, and Shin (2001) illustrated how Curriculum-based measurement can be used to establish academic growth standards for students with learning disabilities in reading. CBM was designed for teachers to use efficiently, to produce meaningful information, to answer questions about the effectiveness of programs in producing academic growth, and to help teachers plan instruction. CBM research has focused on two types of performance indicators of reading competence. The first requires the student to read a text aloud for one minute while the scorer counts the number of words read correctly. The second reading measure has students reading a text for 2.5 minutes. Every seventh word from the text is deleted and replaced with possible choices to restore meaning to the given text. The number of correct restorations is counted. Both methods have been found to be well documented.

The analysis showed that it is possible to set growth standards for both general and special education students using curriculum-based measurement (CBM) as the repeated measure of students' performance. There has also been evidence to recommend a growth rate of 2 words per week reading aloud from grade level text for emergent readers (Deno et. al, 2001). In addition, a growth rate of 1 in grades 2-6 appears to be reasonable as well. The authors concluded that the growth standards of students with learning disabilities should be established at higher levels than those documented through normative data sets (Deno et. al, 2001). Analysis of effective intervention research indicates that students with learning disabilities can achieve growth rates comparable to their same aged general education peers if effective interventions are selected by the teacher. The interventions used by the authors appeared to have positive effects on the reading success of the subjects with learning problems.

Shinn (2002) describes the method of repeated reading as a remedial intervention for students with reading decoding problems. The National Reading Panel recommended that the sessions be brief and be used as part of a larger program of reading instruction. The procedure involves selecting a passage at the student's instructional level, setting a rate criterion (words per minute), and having the student read and reread the passage until the rate criteria is reached.

Such repeated reading methods have been shown to improve reading fluency, expression, and comprehension in both students normally developing readers and struggling students with learning disabilities (Shinn, 2002). It was demonstrated that effects of repeated readings were the same for elementary students with learning disabilities and younger developing readers of the same reading age.

The National Reading Panel conducted a meta analysis of 16 empirical studies of 752 elementary/secondary students using repeated readings and reported an effect size of .41. The effect size for struggling readers from the upper middle grades was .50. Repeated readings had an impact on fluency, with an effect size of .42. One study by Fuchs and Mathes (1997) noted that there were no effects from repeated readings when implemented in a special education classroom with learning disability students as tutors. Future use of this intervention implies that a struggling reader should be paired with an established/competent reader in order to see results.

Studies have also shown that reading fluency is highly related to comprehension and that the correlation ranges from .70 to .90 (Deno et. al, 2001). The most reasonable intervention approach would be to use repeated readings along with direct reading instruction.

Conclusions

It is known that fluent reading is important for several reasons, but most importantly because good readers read faster and more accurately than poor readers and fluency is a large component of reading proficiency (Shinn, 2002). Despite an abundance of research on reading fluency, there is still limited information related to the population of students with learning disabilities. From this review, it was found that curriculum-based measurement (CBM) is an effective and powerful measurement. However, what about the many other fluency programs that were not addressed that have been shown to be strong interventions empirically?

Research Question

A single study research study is proposed that combines explicit and systematic instruction with various reading strategies to improve reading fluency of elementary students with learning disabilities. The question is: What effect do various reading methods have on the reading fluency of elementary students with learning disabilities?

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Effects of Phonics and Whole Language Instruction on Fluency in Students with Disabilities: A Literature Review

Lydia T. Vidal

With the advent of No Child Left Behind (NCLB) and the focus on reading, fluency is fast becoming the basis of how well a student can read and whether or not he will pass the Florida Comprehensive Achievement Test (FCAT) and other standardized tests. Studies conducted by the National Reading Panel suggest that a student's fluency is strongly correlated with his ability to read and comprehend text. In order for a student to read fluently, he must have mastered the basics of reading words.

How does a student learn to read? What methods lead him to understand the correlations of letters and sounds? According to phonics theorists like Mannis (1985), research shows that there are three phases in the acquisition of word recognition skills (Ehri & Wilce, 1979; Guttentag & Haith, 1978; LaBerge & Samuels, 1974). Children who are in Phase 1 can identify unfamiliar words by focusing on the letter-sound correlations. Students who have had practice reading (Phase 2) have more automaticity in their reading and do not have to focus on the letter-sound relations as much as they focus on the subparts of a word (onsets, rimes). By Phase 3, children are reading at a more rapid rate as the components of word recognition (letter-sound relations, blending, onsets, and rimes) are now ingrained in their reading processes. On the other side of the debate in reading, whole language theorists such as Goodman and Smith, believe that a child learns to read through a print rich environment, being read to and using context clues in the literature as well as orthographic cues to decipher words (Vellutino, 1991).

If every child must go through these phases in order to learn to read, what happens if a student cannot move from one phase to the next or has a disability that prevents them from achieving letter-sound recognition? Students with learning disabilities in reading and those who are diagnosed as deaf or hard-of-hearing tend to have problems with phonological processing. If the steps listed above are the ways in which students become readers, how can we effectively teach them to read? In order to find the answers to these questions, the author reviewed different studies regarding effective reading instruction for both students with disabilities and those without. Many articles were found on PsychNet using key words: phonics, whole language, fluency, literacy instruction, and students with disabilities. Other articles were discovered through readings and reference sections.

Phonics

Proponents of phonics believe that a student learns to read by understanding that each letter has a sound(s) and that by applying the rules of phonics, a student can decode any word. "Phonics instruction, by definition, entails direct teaching of letter sounds to facilitate generative use of these sounds for decoding of words that are not readily identified on sight" (Vellutino, 1991). According to Vadasy, Sanders, and Peyton (2005), students who struggle with identifying letters and words also struggle with fluency. Consultants in the Department of Education in Florida developed five priorities, known as the Big Five, all reading teachers must incorporate in daily reading lessons: Phonemic Awareness, Phonics, Fluency, Vocabulary, and Comprehension. The idea is that by teaching the first two components, students will become fluent readers and in turn gain higher comprehension.

The theory behind teaching phonics is that when students know the rules of letters and sounds, they can effectively decode any word. Of course, proponents of phonics also acknowledge there are some words (called sight words) that simply can not be decoded and that there are many exceptions to the rules of phonics. These proponents argue that the sight words and exceptions to the rules can be memorized and with practice, students will automatically recognize the exceptions and be able to read them with the same prosody and fluency as decodable words. By utilizing the knowledge gained from these phonics lessons, students should be able to read any text on their level fluently. As the emphasis on NCLB and state standards increase, even teachers whose students are diagnosed as deaf or hard-of-hearing have turned to phonics to teach their students how to read. Narr (2006) lists strategies that teachers can incorporate into the classroom when teaching phonics. These strategies were designed by Hansen (cited in Narr, 2006) as effective in aiding deaf or hard-of-hearing students learn to read.

Wanzek and Haager (2005) explore using phonics strategies in the elementary school. They claim students must learn how to recognize and decipher words and print in order to become independent, fluent readers. Research from the National Reading Panel supports this with evidence of increased scores on fluency measures. Wanzek and Haager (2005) believe that in order for phonics instruction to be effective, especially for exceptional education students, there must be a balance between explicit letter-sound blending and word patterns. The authors state that teachers should incorporate these lessons into connected text and sentences to ensure the reader can transfer the phonics knowledge into reading.

In their study, Vadasy et al. (2005) posed two questions: What are the effects of phonics-based supplementary reading interventions? and What does oral reading practice add to the effects of word study instruction? For the purpose of this study, we are going to concentrate on the first question. This study focused on students from urban schools who had been identified as at-risk students. Of the 57 students used in this study 19 were placed in the Reading Practice Treatment group, 19 were placed in the Word Study Treatment group, and the remaining 19 were used as the control group. Each group consisted of a variety of ethnicities and abilities, including English Language Learners and Students with Disabilities. The Reading Practice group included 15 – 20 minutes of phonics instruction using *Sound Partners* followed by 10 – 15 minutes of oral reading practice using decodable texts. The Word Study Treatment group focused on seven minutes of letter-sound correspondence and phonics lessons while teaching the rules of phonics. This lesson was followed by guided practice of decoding words and practice of reading words from lists of decodable words and sight words.

At the end of the study, a posttest was given to compare the word recognition and fluency of the groups. The groups scored higher than the control group, suggesting that the interventions worked, however the Reading Practice group scored higher than the Word Study group. This study proved that although phonics is an important component of teaching students to read, it is not the only component in an effective reading program. Although this study proved that phonics alone is not an effective method in reading instruction, it did not discuss the implications for students with disabilities. Earlier studies suggest that phonics instruction may work for some students with disabilities in the decoding of basic words.

Torgesen et al. (1999) studied methods of preventing reading failure in young readers and found that an intensive phonological approach worked best. Although most of the researchers in

the articles agreed that students with reading disabilities had trouble with phonological processes, many of them believed that if the intervention was intensive enough, these students would be able to decode. In Torgesen's study students were given four 20 minute sessions of one-to-one instruction per week starting in Kindergarten. The instruction that the student received in these sessions was based on the treatment group he was in. One group of students received their instruction based on the content being taught in the regular classroom during reading (RCS). The second group of students received explicit instruction in phonemic awareness (PASP) and the third group received embedded phonics (EP) instruction where phonemic awareness was taught through everyday reading activities. The final group was the control group and did not receive the extra one-on-one sessions.

Students were tested at the end of each year to determine growth and reading ability. At the end of each year, students who were in the PASP group scored higher than those in the other groups and those who were in the EP group scored about the same as those in the RCS group and those who were not given treatment. The authors discuss that the time spent on instruction in each group may have affected student growth. The PASP groups spent an average of 80% on word level instruction and about 20% on text while those in the EP group spent about 43% on word level instruction and 57% on text level activities. Although the PASP group scored higher on the assessments given, the authors worried that these students were not given sufficient instruction in applying the word level instruction and constructing meaning. As with the previous study, there was no mention if any students with disabilities participated in this study. If students with disabilities were part of this study, the authors do not provide data that compares these students to those who are not diagnosed with a learning disability. Both studies are generalizable and have been replicated by others who are seeking best methods for reading instruction. However, other studies which focus on students with disabilities lean toward either intense phonological instruction or using semantics.

Whole Language

Current research suggests that students with reading disabilities also have phonological disabilities (Swanson & Alexander, 1997). While students with disabilities in reading may have deficiencies in orthography or semantics, the main problem for them lies in letter-sound correspondence. Swanson and Alexander cite Stanovitch's work (1980) as the basis for their theory that students who have a disability in phonological awareness compensate by using semantics.

...LD readers engage in compensatory processing to gain information from text. That is, a weakness at one level of processing (e.g. the phonological level) is compensated for by a greater reliance on skills that are intact at other levels (Stanovich, 1980). The most common example of this hypothesis applies to word recognition. For example, because LD readers have poor phonological coding ability, their word recognition is augmented by visual, semantic, nonverbal, and contextual clues. (p.130)

If this research is true, then how would a phonological method of instruction benefit a student with reading disabilities? Whole language theorists would argue that students learn to read through a variety of methods other than phonics. Krashen (2002) defines whole language

instruction as reading that is meaningful and interesting, not just modified and adapted to students. He defends whole language and states that there are two fundamental areas that proponents of whole language and proponents of phonics disagree. First, whole language theorists believe that the rules of phonics are numerous and complex. These rules have many exceptions and are difficult to teach. Phonics theorists have proved through research that students perform better on reading tests when provided with direct instruction. Whole language theorists argue that if whole language is taught and used correctly, the scores are comparable. For the purpose of this paper, the author is going to use the following definition of whole language as defined by Foorman et al.

Whole language is a child centered philosophy of learning and instruction, the implementation of which results in a risk-free, supportive, language-rich environment. This environment is ever-changing: changing to meet the needs of all participants, teachers and students alike. Within this whole language philosophy, students are given a wide variety of opportunities to read, write, learn, and construct meaning within a meaningful context. In this interactive, student-friendly atmosphere, learning is not only active and meaningful, but also fun, with the ultimate goal being to instill the desire for life-long learning. (p.40)

In 1965, Goodman conducted research comparing students' ability to read words in context or in lists. He tested 100 students in grade one through three using word lists with increasing difficulty. Each student was tested using these word lists until they reached a list where the words were not too easy or too hard. Once this list was reached, the students were given a passage to read that contained the same words from the list. In his studies, he found that students made 60% - 80% fewer errors when they read the words in context rather than in lists. From this experiment, Goodman concluded that the results proved that students learn to read better with a whole language approach.

Phonics *versus* Whole Language

However, in 1991, Nicholson replicated and modified the study in an effort to disprove Goodman's results. Nicholson believes that Goodman's findings were misleading for two reasons. Nicholson states that the data does not indicate which readers were good readers and which ones were poor readers. One has no knowledge as to the level of reading these students had mastered or not. The second problem that Nicholson finds is the order in which the exam was given. He considers that if Goodman's findings are true, then the order in which the exam is given will not make a difference in the scores. In an effort to prove this, Nicholson conducted two experiments. The first experiment reversed the order that Goodman administered the assessments and the second replicated the original. Nicholson found that age played a role in the results of his study. Younger and older poor readers as well as younger good readers scored higher on the words in context than the words on the list. However, older good readers scored better on the lists than in context. The order in which the words were given did not affect the scores of poor readers but the good readers did better in context when they read the list first.

In 1998, Foorman et al. conducted a study on the effects of phonics instruction on word recognition skills of students at risk for reading failure. This study focused on the degree of explicitness in the instruction of alphabetic code and the phonological processes of students who were failing in reading. The study took place at 19 elementary schools with 285 children in grade

one and two who were eligible for Title I services. Each school was given direction as to how the students were to be instructed in order to compare the following methods: direct instruction of letter-sound correspondences with decodable text (DC), phonics instruction embedded within the connected text (EC), and indirect instruction in the connected text and alphabetic code which was either drawn from the curriculum of the district (IC-S) or a research curriculum (IC-R) implemented to compare the instructional approaches. IC classes participated in the whole-language approach to learning as defined earlier.

Students were tested in October to determine baseline scores and retested throughout the year (December, February, and April) in order to determine growth. The scores from the May achievement tests were also used to determine which program was the most effective. Students who participated in the Direct Code Instruction showed the most growth in word reading throughout the year with those who participated in the Embedded Code coming in second. Implicit Code (both standard and research) students showed the least amount of growth on the word reading tests. Scores from the May achievement confirmed that Direct Code instruction was the most effective program for these at-risk students.

Although this research focused on students at-risk for failure in reading, the researchers did not mention how many (if any) students were diagnosed with disabilities. The researchers compared the two approaches to reading that this author is interested in, but not in a single-subject research study. Unfortunately, this author could not find any single subject research that compare explicit phonics instruction, whole language instruction, or a combination of both as a means of increasing student fluency.

Questions for Future Research

A future study should compare individual students with disabilities focusing on their gains in fluency when given instruction in reading using explicit phonics instruction, whole language instruction, and a combination of both. This is more respectful of the individualized nature of their learning needs because the respective baseline conditions can take into account any accommodations for their needs.

An ABACADA design will be used to determine which method produces the most gains in fluency in students with disabilities, specifically students who are diagnosed with a specific learning disability in reading. Students' scores on the DIBELS Oral Reading Fluency probe will measure fluency. The research questions to frame the study include:

1. Which method of instruction (explicit phonics instruction, whole language instruction, combination) works best with students with disabilities?
2. Is there a generalizable method that will increase fluency in students with a reading disability?

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The Effects of Repeated Reading Intervention on Reading Fluency of 3rd Grade Students

Corrie A. Hooper

A significant amount of research has been conducted in the area of reading. Educators and researchers are finding advances in effective reading instruction, but despite these findings many children in the United States are still experiencing difficulties learning to read (Begeny & Silber, 2006). With many states implementing high-stakes testing, such as the FCAT in Florida, it's important that our children become fluent readers by at least the third grade. Many reading experts have identified the following as five essential components to developing critical early literacy skills: a) phonemic awareness, b) phonics, c) fluency with text, d) vocabulary, and e) comprehension strategies (Begeny & Silber, 2006). It is with the development of these five skills that students become efficient readers.

Fluency is an important dimension of reading. It is needed to become a successful reader (Welsch, 2006). While most of reading research focuses on decoding and comprehension, many children are not fluent readers. Fluency serves as the link between learning to decode words and comprehension (Therrien & Kubina, 2006). Kuhn (2004) states that one of the reasons it's so vital to teach fluency is because fluent readers don't have to intentionally decode the majority of words they encounter in a text. They can just recognize words automatically and accurately. Fluent readers are also able to read texts with expression. Reading text with expression is what makes oral reading sound like spoken language.

Some of the strategies used for improving reading fluency include repeated readings, classwide peer tutoring, computer assisted instruction, and listening passage review (Nelson, Alber & Gordy, 2004). Welsch (2006) listed 20 strategies effective in increasing fluency. The list includes repeated reading, paired reading, choral reading, shared reading, praise/attention, word drill, classwide peer tutoring, corrective feedback, etc. The repeated reading method was found to be the most researched and most effective method to increase reading fluency. It is widely implemented and can be used for students with or without disabilities (Therrien & Kubina, 2006).

Repeated reading requires the student to read a passage several times within one reading session (Nelson, Alber & Gordy, 2004). After many sessions of reading, the student attempts to increase their reading rate. Therrien & Kubina (2006) described the key components for setting up and using repeated reading in the classroom: a) determine if students have the necessary prerequisite skills, b) choose an appropriate format for the intervention, c) implement essential instructional components, d) select appropriate reading material and obtain additional supplies.

Review of the Literature

This research focused on the implementation of repeated reading methods and its effects on reading fluency. The articles were found by searching the ERIC database with the keywords of reading, reading fluency, and repeated readings strategies.

Kuhn (2004) examined the effectiveness of a modified repeated-reading strategy, fluency-oriented oral reading (FOOR), and a wide-reading strategy approach, in which students read equivalent amounts of non-repetitive text, on the fluency development of struggling readers within a

flexible grouping format. The two strategies were studied in terms of promoting both accurate and automatic word recognition, as well as reading expression, among the students. Twenty-four second graders were selected to participate in this project. The authors noted that second grade was selected because it is generally seen as the point at which students make the transition to fluent reading. The participating students were reading at the first-grade level or below according to the instruments cited by the authors: Qualitative Reading Inventory (QRI, 1988) and Qualitative Reading Inventory-II (QRI-II, 1995). Teachers also indicated the students who were having difficulty moving beyond basic decoding skills. Students were placed in reading groups of six. The study consisted of three intervention groups: a fluency-oriented oral reading (FOOR) group, a wide-reading group, and a listening-only group. In addition to these three groups, a control group was included. The control group consisted of two students from each of the participating classrooms. These students did not receive any reading instruction beyond what was occurring in their own class. The intervention involved 18 sessions over a six-week period. These took place three times a week for 15 to 20 minutes each.

The fluency-oriented oral reading strategy (FOOR) made use of several elements that have proved successful in earlier fluency studies including modeling, repetition, positive feedback from instructors or peers, and opportunity for oral rendition of practiced texts. Wide reading was selected as the second approach in order to determine the effectiveness of scaffolded, but non-repeated, reading in the development of student's fluency. In the third condition, students listened only to the same 18 stories read in the wide-reading sessions were covered. Instead of the students reading the stories, the students were read to by someone else with an expressive rendition of the story. The students' comprehension, as well as their accurate and automatic word recognition within text, was assessed using the QRI and the QRI-II, the Test of Word Recognition Efficiency (TOWRE), and the National Assessment of Educational Progress's Oral Reading Fluency Scale was used to evaluate the students' oral reading.

The results of the study demonstrated that certain differences emerged between the groups. Students in the wide-reading and FOOR groups identified a greater number of words in isolation than did the listening-only or control groups on the TOWRE. Also the wide-reading and FOOR groups demonstrated greater growth in terms of the number of correct words read per minute, than did either the students in the listening-only group or the controls. The FOOR and wide-reading groups were also more fluent than that of the other two groups, but only the students in the wide-reading group showed improved comprehension. The results of this study indicate that the used of repeated reading and wide-reading are effective ways in increasing fluency and word-recognition.

In another study which examined the repeated readings method, Layton & Koenig (1998) used the repeated readings method to see the effects on elementary students with low vision. Four students were selected to participate in this study who were 1) identified as having low vision, but not functionally blind, 2) performed within the average range of intelligence by their most recent comprehensive individual assessments, 3) experienced difficulty in reading fluency, and 4) were willing to participate in the study for 30 minutes each school day over a 5-week period. A changing-criterion design was used in this study to determine the effectiveness of repeated readings for increasing oral reading fluency. In this design, the reading fluency rates were increased in a stepwise manner across successive subphases of the intervention phase until the desired level of

functioning was obtained. Data was collected on each student's oral reading rate, error rate, and comprehension rate each day.

The results of the study indicated that all four students increased their fluency rates as a result of the repeated reading method. Internal validity was established. Experimental control was demonstrated by each stepwise change in criterion, resulting in an increase in each student's reading rate. Strict adherence to the standardized procedures and high interobserver reliability were established. The primary data collection person remained the same throughout the study. External validity was established by demonstrating that the students were able to generalize the change in their reading-rate behavior to classroom reading.

Begeny and Silber (2006) examined the effects of group-based treatment packages for increasing elementary-aged students' reading fluency. The four group-based treatment packages contained two or more of the following reading interventions: repeated reading, listening passage preview, word-list training and phrase-drill with error correction. Drawing upon the literature which shows that combining reading fluency interventions for elementary-aged students may be more effective than using the intervention independently, the authors incorporated four reading fluency interventions that have previously been demonstrated to be effective in improving students' reading fluency in a one-on-one context.

In the beginning of the study, it included six third graders from one urban school in the U.S. During the study, 2 students could no longer participate, so data was collected on the remaining 4 students. All intervention procedures were conducted in a classroom in the participants' school. Each instructional session lasted approximately 7 to 12 minutes. An alternating-treatments design was used to evaluate the effectiveness of the four different intervention packages, with a brief baseline condition used to evaluate the effectiveness of each package versus a no-treatment condition. Participants were grouped together and received the intervention conditions simultaneously. Unless they were absent, the participants received four separate training sessions for each of the conditions. Also, because some intervention sessions occurred during the morning and some during the afternoon, time of receiving the intervention was also counterbalanced across conditions. The average interscorer agreement in this study was 98.7%.

Results of this study indicate that each of the intervention packages promoted larger reading fluency gains compared to baseline conditions, but that the intervention combining all of the group-based intervention components was the most effective. A full combination of intervention components is more beneficial for increasing student's reading fluency than just implementation of one reading intervention.

There are many implications to the findings in this study. First, it was suggested that small-group-based interventions can be highly effective in improving students' reading fluency. This is important to consider because there are so many low performing readers, and because students may not build their reading fluency to significant levels without specific practice conditions. Another implication pertains to the amount of time teachers need for implementing effective interventions. Implementing this complete package of intervention components required approximately 9 to 12 minutes. Limitations to this study include the small-sample size, only one dependent variable measured, and also the external validity because this study only represents one urban school in the Northeast United States.

Nelson, Alber, and Gordy (2004), studied the effects of systematic error correction and repeated readings on the reading accuracy and fluency of second graders with disabilities. Four second graders with disabilities participated in this study. Three of the students were identified as having learning disabilities, and one student was diagnosed with ADHD. All four students attended a special resource room for one to three periods per day, and attended a regular second grade classroom for the rest of the day. These children were chosen for the study because their teacher indicated that they were functioning one to two years below their grade level in reading.

Two dependent variables were measured in this study: the number of words read correctly in context per minute and number of errors per minute. Interobserver agreement was assessed during 5 of the 33 experimental sessions. The mean IOA for all four students was 100%. A multiple-baseline across students design was used to examine the effects of systematic error correction, systematic error correction plus repeated readings, and error correction plus repeated readings with previously read material on the number of words students read correctly and the number of errors read per minute.

Throughout this study, students progressed from a pre-primer level to a primer level, and then to a first grade level as indicated by the level changes in the reading series. The results demonstrated a functional relationship, as all four students increased words read correctly per minute and reduced errors over the course of the study when the intervention was systematically implemented. The gains are important because the baseline reading rate of these students showed they scored one full year below grade level. For students in this study, gains in words read correctly were not apparent until the second condition, when repeated readings were implemented in conjunction with error correction procedures. So the error correction group alone did not result in significant changes, but the combination of repeated readings and error correction procedures did.

In summary, studies indicate that repeated readings method is an effective way to improve reading fluency. Research also indicates that combining repeated reading with other reading interventions such as listening passage preview and error correction strategies are also proven to be beneficial in increasing reading fluency. I've chosen third grade because of the high stake testing we have in Florida. It's very important that children are reading on grade level by third grade. Since fluency is one of the key components of becoming an expert reader, I've chosen to focus on reading fluency. The purpose of this study will be to compare the results of the two reading strategies- repeated reading and error correction on reading fluency. I propose the following research question based on the review of literature: What effect does repeated reading strategy and error correction strategy have on the reading fluency of 3rd graders?

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Self-monitoring and Academic Performance: Students with Disabilities and Inclusion

Nicole Mancini

Mainstreaming students with disabilities to the maximum extent appropriate was adopted by the US Congress when it enacted the Education of All Handicapped Children Act of 1975, the precursor to the Individuals with Disabilities Education Act (IDEA). As a result, least restrictive environment mandates have swept the country. While many practices such as self-management techniques have proven beneficial for students with disabilities in self-contained classrooms, research has yet to solidify their effectiveness in the mainstream (general education classroom).

Although significant research has been published on self-management techniques for students without disabilities in general education classes and students with disabilities in self-contained settings, far less investigation has been devoted to assessing the effectiveness of self-management for students with disabilities within a general education settings (McDougall & Brady 1998); Agran et al., 2005). In 1998, McDougall and Brady published a meta-analysis that examined over 240 self-management studies published between 1970-1997. Of the 248 studies reviewed, 145 addressed students with disabilities within a self-contained setting, 45 investigated students without disabilities in a general education setting, and only 14 examined students with disabilities within a general education classroom. All 14 studies, though, examined by McDougall exhibited moderate to strong results in supporting self-management methods for students with disabilities in general education settings in improving their academic and social performances.

Self-monitoring is a cognitive-behavioral strategy that lies within the larger realm of behavioral self-management (BSM) techniques (McDougall, 1998). Other forms of self-management include self-determination of reinforcement, self-administration of reinforcement, self-instruction and self-evaluation. The strategy attempts to change a person's private verbal behavior in order to change his or her outward behavior (Ganz & Sigafoos, 2005). Self-monitoring (SM) is a multistage process of observing and recording one's behavior, involving two steps: discriminating the occurrence of the target response and self-recording the response (Mace, Belfiore, & Hutchinson, 2001). According to Reid (1996), there are two types of self-monitoring interventions that are commonly used: 1) self-monitoring of attention (SMA), and 2) self-monitoring of performance (SMP). SMA is used to encourage a child's awareness of his or her attention to a required task, while SMP interventions typically entail students performing an academic task (e.g., spelling practice), assessing either the amount of completion or accuracy of their work either during or following the task. In addition to recording the result, SMP interventions often include graphing as a major component (Reid, 1996).

Literature Review

The computerized databases ERIC and PsychInfo were utilized in examining more recent studies that address the self-monitoring of students with disabilities in general education settings. Key words such as "self-monitoring", "self-management" and "general education" were used to limit searches. Each of the following studies demonstrated a multiple baseline single-subject design.

McDougall and Brady (1998) examined initiating and fading self-management intervention to increase math fluency in general education classes. In this study, researchers addressed two major skepticisms: a) the transition of self-management to mainstream (Hughes, Ruhl, & Misra, 1989, p. 259); and b) self-management's affect on academic performance (McDougall & Brady 1998). The multiple baseline design also incorporated an alternating treatment phase as well as maintenance and generalization components.

McDougall and Brady (1998) posed five research questions:

1. To what extent do multiple-component self-management treatment packages increase math fluency during independent practice, and are improvements maintained when self-management components are faded?
2. To what extent do multiple-component self-management treatment packages increase engaged time during independent practice, and are improvements maintained when self-management components are faded?
3. Which of two self-management treatment packages is more effective in increasing math fluency and engaged time--one that incorporates self-monitoring of attention or one that incorporates self-monitoring of productivity?
4. To what extent do self-management treatment packages affect response generalization to math word problems?
5. How accurately and punctually do students self-monitor?

Ranging from 9 years 7 months to 10 years 5 months, participants consisted of five fourth graders enrolled in a public elementary school in Houston. All participants attended general education classes and were identified by their teacher as having poor math fluency and limited academic engagement. One of the students had also been identified as having ADD, while another student was identified as having a learning disability and received special services in a resource room for a portion of the day.

The dependent variable, math fluency, included: a) correct rate, or the number of correct numerical digits per minute, b) error rate, or the number of incorrect numerical digits per minute, and c) percent correct. Based on recent performance on homework, warm-ups and exams, math problems used throughout the study were individualized to the participant's current ability. Secondary variables, engaged time and response generalization, were also assessed.

During the baseline phase, students' correct and error rates during warm-up math exercises were calculated by an observer and shared with each participant. Participants were then introduced to the self-management treatment packages that included audio-cued self-monitoring, self-determination and self-administration of reinforcement. Examples of audio cues include "Am I paying attention?" and "Am I working quickly?" Participants were taught to self-assess and self-record using monitoring sheets provided. Researchers used a variable time schedule to emit the audio cues, averaging one cue per minute; approximately 10 cues were emitted during each 10 minute session.

Once researchers calculated correct and error rates and percent correct at the end of each session, participants graphed their scores inside their individual folders. Folders also included the number of token points each participant had received and the reinforcers then exchanged.

Researchers noted that tokens were based on individual improvements rather than being contingent upon daily performances; bonus tokens were also received when students achieved a new personal best.

McDougall's study differs in that the intervention, rather than being the self-monitoring, was the fading of self-monitoring components. First, the frequency of audio cues was decreased from one per minute to one per two minutes. Participants were then given an option to remove either self-graphing or self-reinforcement from their treatment package. The maintenance phase was conducted for two weeks following the intervention, during which there was a return to baseline conditions (self-monitoring with all components).

Following McDougall's unique procedural approach to self-monitoring, results not only confirmed prior studies' finds that self-monitoring increases academic productivity, they also demonstrated that similar results were also achieved when the intervention was systematically faded. McDougall suggested that baseline conditions of self-monitoring with all of its components may have established behavior control that was maintained during the intervention as components were removed. Normative data was also collected with other students in the class, further supporting the educational and social validity of the target behavior.

O'Reilly, Tiernan, and Lancioni' (2002) examined the effectiveness of self-monitoring in increasing the on-task behavior of a post-institutionalized 13-year old girl in a regular school. She had spent the first 10 years of her life in orphanages, experiencing severe deprivation and abuse; the first two years of her life, she experienced little human contact. Based on a functional assessment conducted prior to the study, the participant was functioning with a moderate level of developmental disability. All observations were conducted in a local Irish school where she attended lower ability, 6th grade general education classes; the intervention was implemented during Gaelic, Religion and English classes, consisting of 15, 30 and 10 total students, respectively. The same teacher instructed the Gaelic and Religion classes, while English was taught by a different instructor.

The dependent variable was selected based on recommendations from parents and school personnel. Both groups commented that the participant exhibited quasi-autistic behaviors, such as body-rocking and hand-gazing that were non-communicative and interfering with educational activities. The target behavior was chosen to be on-task behavior, operationally defined as sitting appropriately with eyes focused on either the work at hand or the teacher.

A multiple baseline design was implemented across settings. Observations were first taken without the intervention in all three classrooms. Once a stable baseline was achieved, the intervention was first implemented in the Gaelic class, while the Religion and English classes remained without treatment. The intervention was then systematically introduced to the second and third settings. A withdrawal phase, removal of the self-monitoring materials, was only initiated once the target behavior was observed at an acceptable level. The combined A-B-A design was used to further establish a functional relationship between the independent and dependent variables.

Prior to observations, the participant was taught in a resource room to use the wristwatch and self-monitoring sheet in order to correctly implement the intervention. After the importance of on-task behavior was discussed with the participant, two trainers then role-played both on and off-

task behavior. The participant received verbal praise for correctly identifying the on-task examples, while descriptive corrective feedback was given for incorrect answers. Once the participant demonstrated 100% accuracy in identifying three consecutive trials, the wristwatch and self-monitoring sheet were introduced. The timer was set at one-minute intervals, at the end of which the participant would record whether behavior was on or off-task. Verbal praise was given for accurately identifying the behavior, while an ink stamp was used as a positive reinforcer whenever on-task behavior was demonstrated. Corrective feedback was again used for incorrect self-monitoring.

One of the trainers then accompanied the participant to the first general education classroom in order to practice the intervention in the setting in which formal observations were taken. The participant again received verbal praise or corrective feedback for self-monitoring accuracy and an ink stamp for on-task behavior. Throughout the study, trainers met with participant before classes, prompting her to use the intervention. Though one of the trainers also accompanied the participant into class in order to simultaneously record on the self-monitoring sheet, verbal praise, feedback and reinforcing stamps were only given at the end of class.

Results indicated that the intervention of self-monitoring improved on-task behavior in general education Gaelic, Religion and English classes from means of 32%, 29% and 53.5% to 93.5%, 87% and 95%, respectively. Note that the participant demonstrated the highest percent of on-task behavior in her English class, a subject she also received one-to-one services for four hours a week. Interobserver reliability of on-task behavior was conducted with a second observer for 56% of the sessions and calculated to have a mean of 95%, ranging from 75% to 100%.

During the study, researchers observed two students from each class who were identified by the teacher as having the best behavior; their on-task behavior ranged from 86% to 94%. Therefore, the participant was able to perform within the range of on-task behavior comparable to the best-behaved students as identified by the teacher. Teachers also commented on the unobtrusive nature of the intervention and how they planned to continue its implementation after the study. O'Reilly was effectively able to demonstrate through visual display of the graph of the data that the self-monitoring intervention had an immediate and dramatic effect.

Observations indicated that the participant's stereotypical behavior (body-rocking and hand-gazing) occurred almost continuously with the off-task behavior. Researchers indicated that the self-monitoring program may interrupt such behaviors by requiring the individual to focus.

Limitations of the study included evaluating more lasting effects of the intervention, as observations were only recorded over a 3-month period, as well as observing stereotypic behavior as a separate response in order to more effectively prove a functional relationship with the intervention.

Most recently, Agran et al. (2005) investigated the effects of self-monitoring instruction on the participation of middle school students with moderate to severe disabilities in a general education classroom. Six students were chosen based on the following criteria: a) mental retardation in the moderate to severe range, Level III according to Iowa state guidelines; b) current grades level of either 7th or 8th; c) current inclusion in general education classes and d) teacher evaluations indicate a need for improvement in following directions. All of the participants were 13-

15 year-old males; five were Caucasian and one was African American (WH). WISC III IQ scores ranged from 30-72 and all were identified as having "restrictive adaptive functioning" in following directions. Two were diagnosed with autism, and one was identified as having Asperger Syndrome.

All participants attended a midwestern junior high school with approximately 350 7th and 8th graders. The school day included seven 45-minute periods and a 15-minute homeroom at the end of the day. Five of the six students participated in exploratory classes, such as industrial technology or art, where many specific directions were given in order to complete activities. The sixth student was included in a social studies class where transitional instructions were given throughout the class.

The study's primary measurement was the amount of change of each participant's performance in following directions or the percentage of successfully completed steps of task sequence. During each class period, a minimum of five opportunities were allotted to follow directions. Before selecting the target behavior, each participant was observed for 10 hours in their general education classes. Both general and special educators were asked with what specific skill did each student demonstrate difficulty. After teachers indicated that participants needed improvement in following directions, students also agreed that they needed more practice in this area.

Two parallel multiple baseline designs were conducted, each with three participants, due to logistical and scheduling contingencies. In addition to the three-tier multiple baseline across subjects design, the study incorporated an A-B component. During the baseline condition, the observer recorded the frequency of the target behavior. After a stable baseline was established, the intervention was implemented. Once each participant demonstrated 80% mastery of self-monitoring for following directions for three consecutive sessions, direct intervention was withdrawn. Although no praise or feedback was being offered, students were still given their self-monitoring cards. During this maintenance phase, data was collected twice per week for one to three months.

The intervention began with teaching students the self-monitoring strategy; this involved teaching students to complete assigned tasks and the self-monitoring strategy. Each time the student successfully completed a step in the task, they recorded a "+" on the self-monitoring card; a "-" was used for not completing the step. Both students and the observers recorded data; students recorded data during the intervention and maintenance phases, while the observers recorded data during all three of the experimental phases. A point-by-point ratio was used to compute interobserver agreement. Such scores were obtained for approximately 50% of the sessions throughout all three of the experimental conditions.

University research assistants were trained and used as observers throughout the study; the researcher served as a second observer during sessions of interobserver agreement. Each observer was first trained to operationally define the target behavior and understand the coding system. Observers then role-played, identified and recorded target behaviors in following instructions. Training was complete when the observers reached 80% agreement for three consecutive sessions. For the steps of the teaching method, a procedural reliability of 100% was achieved for all 25 sessions observed. An Interobserver reliability score of 90 to 100%, with a mean of 95%, was calculated using a point-by-point ratio.

This study is socially valid based on participants becoming more conscientious about their classroom behavior. The teachers agreed that it was a positive experience; they also noted that students' participation and completed assignments improved on a consistent level. Students began to monitor their own behavior and needed less teacher-directed supervision.

Relatively few empirical studies involving students with moderate to severe disabilities in an inclusive setting have been conducted thus far. This particular study offered three limitations in particular. First, the accuracy of student's self-monitoring was not checked. The accuracy of the self-monitoring, though, may or may not be a contributing factor to the desired results of the study. Second, no student social validation data was collected. Even though the teachers commented on a positive overall experience, students' perceptions were not taken into consideration. In addition to obtaining student social validation, researchers also suggest obtaining a systematic evaluation of generalizability in future research. Though students employed the strategy in different settings, researchers also suggest observing non-target behaviors in various settings.

The study incorporated both student and observer-recorded data. Agreement of student-observer recorded data was computed for approximately 50% of the sessions throughout all three experimental conditions. A point-by-point agreement ratio yielded an overall percentage of agreement by dividing the number of agreements by the total number of agreements and disagreements and multiplying by 100. Observers were all trained to operationally recognize the target behavior and use a coding system to record their observations; role-play was used as part of the observer training. Training ended once observers reached 80% agreement for three consecutive sessions. An instructional checklist ensured similar instruction in teaching students the self-monitoring strategy.

Summary

Self-monitoring methods are easy to teach to students and easy to incorporate in the classroom. It requires students to recognize and discriminate their own target behaviors and record their occurrences. McDougal and Brady (1998) emphasize that the emerging evidence of the effectiveness of self-management shows it to be an inclusive tool. Practitioners should increase its use in general education settings. This in turn would increase self-management training and self-management use among students with and without disabilities. Preservice and inservice teacher training programs should routinely include self-management as an essential tool for promoting students' self-reliance and for managing academic and social behaviors. Self-monitoring strategies also have good generalizability potential in their adaptability to an array of other skills. As a self-directed strategy, self-monitoring serves as a motivating device in having students monitor their own behavior, while decreasing an individual's reliance on external agents such as teachers and material reinforcers.

Research Questions

To what extent do self-monitoring and self-recording treatments increase the academic productivity of students with disabilities in general education settings? During which activity, whole-class instruction, group collaboration, or independent work, are self-monitoring strategies most effective? Does the accuracy of self-monitoring impact the effectiveness of the intervention?

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Language Interventions to Increase Social Communication with Children with Autism

Jennifer Marrero

Autism is defined as a pervasive developmental disorder significantly affecting verbal and nonverbal communication and social interactions (Hancock & Kaiser, 2002). Children with autism vary widely in abilities, intelligence, and behaviors. Some children are nonverbal, while others have language that often includes repeated phrases or conversations. Children with more advanced language skills tend to use a small range of topics and have difficulty with abstract concepts. Children with autism need to have effective early social communication intervention or their behavioral symptoms are likely to be more severe and disruptive to the individual's development and daily living (Hancock & Kaiser, 2002). Communication problems that interfere with learning sometimes require the assistance of knowledgeable professionals in the field of autism who develops and helps to implement a plan which can be carried out at home and school.

In June of 2001, the National Research Council reported an important aspect of effective educational programs for children with autism spectrum disorder, which is to provide as much intervention as possible in settings with typically developing, same aged peers (Jones & Schwartz, 2004). Naturalistic strategies begin with the child's intention to communicate and the trainer's ability to provide models of appropriate communication and meaningful social interactions for communication attempts (Hancock & Kaiser, 2002). For language intervention to be effective with children with autism, it is important that the intervention begins early, targets the social use of language, and the intensity and duration of the intervention results in acquisition and generalized use of new language skills taught (Hancock & Kaiser, 2002). Parents often report their desire to communicate with their children in functional ways, therefore it is extremely important that any language intervention with children with autism include their families (Hancock & Kaiser, 2002). Most of the references utilized in this research proposal were found in the Web Luis database with key words such as autism, preschool, social communication, language intervention, and single subject research. The publications are dated from 2002 to the present.

Review of the Literature

Delays in language, ranging from late onset of language to pervasive problems, impact not only the child with autism, but also parents, family members, and others who interact with them. Furthermore, such delays can create difficulty in interacting with peers, particularly in the school setting. Children need a number of skills to initiate and respond to social interactions, such as taking social turns, sustaining contact, and negotiating conflict. The context and variety of language intervention programs are endless. In reviewing the literature, researchers typically have identified three different settings, the naturalistic setting or "milieu," the context of children's play, and the school environment, inclusive or segregated classrooms. Overall, the authors of the articles presented discussed the importance of early language intervention for developing social communication in children with ASD. One study with older children demonstrated an inconsistent behavior change in developing social communication. In addition most of the studies were conducted in naturalistic settings or included generalization sessions in the classroom, playground, or home setting.

Ingersoll, Dvortcsak, Whalen, and Sikora (2005) examined the effectiveness of developmental, social-pragmatic (DSP) intervention to promote social communicative behaviors in young children with autistic spectrum disorder (ASD) using a multiple baseline design. Developmental, social-pragmatic interventions are based on the study of interactions between typically developing infants and their mothers; however there is limited research on using this intervention for promoting social communication in young children with autism. The participants were three boys with ASD. They were selected from a waiting list for speech-language therapy at a center specializing in interventions for young children with communication disorders. Jack was 3 years 10 months old, whose language was largely scripted consisting primarily of immediate and delayed echolalia. Spontaneous language consisted primarily of 3-4 word phrases to request. His mother participated in the generalization sessions but not in the one month follow up. David was 2 years 6 months old, who would periodically imitate single words and spontaneously label objects in his environment with word approximations. His language was rarely directed towards others. His father participated in the generalization sessions and the follow up. Paul was 2 years 8 months old, who used single words to request and label items. His father participated in the generalization sessions but did not for the one month follow up observation, however Paul did participate with the therapist.

All therapy sessions were conducted in a small treatment room, at a center specializing in speech-language therapy. The main treatment components of the developmental, social-pragmatic language intervention were (a) following the child's lead, (b) setting up the environment to evoke initiations from the child, (c) treating all of the child's communicative attempts as purposeful, (d) emphasizing appropriate affect, and (e) using indirect language stimulation techniques. The child's outcome was determined by changes in rate of spontaneous language used during daily sessions. Spontaneous language was defined as the child's use of appropriate language that is not evoked by a prompt or cue. Delayed echolalia used in context was included as long as the language is directed at a communicative partner. The child could use any form of appropriate language including verbal imitation, cued language, and spontaneous language however all language must be used in context. The first 10 minutes of baseline, treatment, and generalization sessions were video taped and scored for spontaneous language in 30 second intervals. Baseline and treatment sessions were conducted on a daily basis while generalizations sessions were conducted once a week. Generalization sessions assessed the child during a free play session with their parent. The parent was to play the way they do at home; they were not trained on the intervention techniques. Follow up visits were conducted one month after the conclusion of the treatment.

During baseline, all the children exhibited relatively low rates of spontaneous language however Jack's language increased during baseline. Jack's and Paul's spontaneous language significantly increased during treatment. Jack's mean spontaneous language at baseline was 25 and it increased to 60.6 during treatment. Paul's mean spontaneous language at baseline was 14.3 and it increased to 53.6. David's spontaneous language had a minimal increase but he increased from a mean of zero at baseline to a mean of 8.1 at treatment. All children demonstrated an increased rate of spontaneous language less dramatic during generalization sessions with the parent than with the therapist. The one month follow up results with the therapist indicated that David and Paul continued to exhibit higher rates of appropriate language and was higher than at post treatment. David was the only child that participated in the one month follow-up with his parent, results indicated that he exhibited less language than during post treatment, however his rate of appropriate language was greater than it was with his parent during pretreatment. The

therapist or parents did not indicate if the children were able to generalize the behavior within the home environment.

This study provided empirical support for the developmental, social-pragmatic language intervention to promote social-communicative behaviors in young children with ASD for 2 out of the 3 children. Some limitations to the study would include, Jack's language increased during baseline which limits the conclusion that there was a functional relationship. In addition, two of the parents observed the sessions with the therapist, there is a possibility that the parent were able to learn the treatment strategies through observation, which may have skewed the data during generalization sessions. Also, there is no follow up information on some of the children since some of them did not participate with the therapist or the parent.

Gafinkle and Schwartz (2002) investigated the effectiveness of peer imitation to increase social interactions in preschool children with autism and developmental disabilities using a multiple baseline design. The participants were four boys enrolled in an integrated preschool classroom. Three of the boys were diagnosed with autism. The other boy did not have a formal diagnosis but had a documented developmental delay. Boyd was a 4 year 10 month old, whose behaviors included protests by screaming, some echolalia, would imitate adult actions, and did not play near peers. Oriel was a 3 year 4 month old, whose behaviors included protests by screaming, echolalia, some spontaneous one word utterances, would imitate adult actions and gestures in familiar routines, stayed on the perimeter of the play space and did not play with peers. Rowen was a 4 year 4 month old with a documented developmentally delayed. His behaviors included some echolalia; he used some single words but was dependent on PECS to make requests. He would imitate adult actions and gestures, played near but not with peers, any interactions with peers was typically for requesting toys. Xanthus is a 5 year 5 month old whose behavior included frequent echolalia, limited functional speech, would imitate adult actions and gestures, played near peers, and social interaction with peers was characterized by preservative greetings and request for toys.

The intervention was conducted in integrated preschool classrooms with half of the students typically developing and the other half of the students receiving special services. Boyd and Oriel attended the same class, while Rowen and Xanthus were in two separate classrooms. The intervention consisted of a four step intervention and was continued until each child in the small group had the opportunity to be the leader twice. The four steps of the intervention were (a) teacher instructions to the small group, (b) leader selection, (c) prompts to promote imitation and (d) praise of imitative acts. The intervention took about ten minutes. Any social interaction or imitations that occurred during the 10 second interval were recorded. Data was taken at least once a week and the observation was during any 5 minutes during the 10 minute training. During freeplay, there was no intervention specific training or prompting. The adults were instructed to continue to interact with the children in the same manner. Data was collected only if the child participated in small group training that day. Data was collected during any 10 minutes during the 30 minute freeplay. During follow up, the children received no prompts either to volunteer to be the leader or to imitate any peer's actions.

Results indicated that children did not show peer imitations during baseline, however they did exhibit variable but low levels of social interactions. During treatment, the students exhibited a small increase of peer imitations but the levels of social interactions remained low, variable, and consistent with baseline behavior. Xanthus and Boyd were able to independently imitate their peers

in at least half of the training lessons. Oriel and Rowen required higher levels of prompting. During follow up, Boyd's peer imitation behaviors was maintained for one day. However, social interaction behaviors were consistent with the behavior recorded in the baseline and intervention phase for all four boys. During the generalization sessions, conducted during free play there was a small increase of peer imitations and social interactions remained relatively low and variable, although the mean number of social interactions is higher in the intervention condition than in the baseline condition.

Developing social interactions in children with autism is socially valid and social interactions may be developed through peer imitations in children with ASD. However, this study did not provide empirical support for the usage of peer imitation for increasing social interactions in preschool children with autism or other developmental disabilities. Although there was a change in peer imitation during small group training and social interaction during free play, there was not a significant amount of behavior change during generalization and the student did not demonstrate the behaviors during follow up. The teachers did report the following changes: (a) more imitations of peers, (b) more social initiations towards peers, (c) more awareness of peers, and (d) better play skills even if the data did not support this. One of limitations was the numerous absences of each of the four students. This may have negatively impacted the empirical support of the usage of peer imitation to increase social interactions.

Hancock and Kaiser (2002) also used a multiple baseline design to examine the effectiveness of trainer implemented Enhanced Milieu Teaching (EMT) on the language performance of preschool children with autism. EMT incorporates behavioral and social interaction approaches to naturalistic, early language intervention. Research studies of EMT have shown positive results in teaching children with autism new social communication skills. The participants included three boys and one girl and their mothers. The children were diagnosed as having autism or PDD with autistic symptoms by an independent child evaluation clinic. The criteria for the participants were (a) between 2 ½ to 5 years old, (b) had at least a 6 month delay in expressive language, (c) was verbally imitative, (d) had an expressive vocabulary of at least 10 spontaneous words, and (e) the child's hearing was within normal range.

The researchers included four classes of variables to be assessed. The variables were (a) trainer use of the intervention strategies, which was done to reflect the integrity of the intervention; (b) child social communication during observation which measured the frequency of total utterances, spontaneous child utterances, total use of targets, and frequency of targets used spontaneously; (c) developmental measures of the child's language, which was measured before baseline, at the end of the training, and at the end of follow up; and (d) parent satisfaction with the intervention program, which the parent completed a questionnaire at the end of the intervention and again at the end of the follow up to measure their child's communication skills as a result of the intervention. Intervention sessions were conducted twice each week with each child in the clinic playroom. The interventionist and the child played with age appropriate toys. Training sessions were videotaped and lasted approximately 15 minutes. The EMT procedures were (a) begin with child verbal or nonverbal requests, (b) follow a specific sequence of prompts, (c) include corrective prompts as needed, and (d) end with positive feedback, expansion of the child's utterance, and access to the child's requested object.

The results for the mean use of total targets, spontaneous targets, total utterances, spontaneous utterances, mean length utterance (MLU) and the number of words for the participants are as follows:

1. Four children increased their total use of targets. The strongest effects were seen for Child B and Child C. Child A and D had lower levels of target use throughout the intervention. All the children continued to use their targets during the clinic follow up assessments.
2. Three of the four children showed clear changes in spontaneous use of targets. Child D showed small changes in use of spontaneous targets during intervention. All four children maintained similar rates of spontaneous target use during the follow up period.
3. All children increased in their frequency of total utterances from baseline to intervention, with Child C showing the largest gains. Child A and B showed further increases in total utterances at follow up.
4. Child B and C increased their spontaneous utterances from baseline to intervention, with Child C again showing the largest gains. Only Child B showed an increase in frequency of spontaneous utterances from intervention to follow up, the other three children maintained intervention levels at follow up.
5. Child A, B, and C showed changes in MLU and the number of different words observed during the intervention. Child B and C showed modest increases in MLU from intervention to follow up. Child A, B, and C increased slightly in their number of different words used at follow up.

Although the study was completed in a clinic playroom, data was taken to see if the language of the children were generalizing into the home setting. This study provided empirical support for the usage of EMT to increase social communication of children of autism. Generalizations to the home setting were observed for three of the four children with the greatest changes occurring immediately after the intervention, than at the 6 month follow up. Children demonstrated positive changes in social communication, assessed across settings and measures, and these changes generalized to interactions with their peers. These findings are especially important given the social and communicative difficulties of children with autism. One limitation to consider would be to train the parent to use simple responsive interaction strategies during the follow up period. This may have resulted in the children's continued language growth.

Jones and Schwartz (2004) used a parallel treatment design to examine the effectiveness of peers, siblings, and adults as models for teaching novel language skills. Parallel treatment designs have been described as the method for examining the effectiveness of more than one instructional procedure on the acquisition of independent but comparable skills. The visual representation of data looks similar to multiple baseline design; however the child was exposed to all three interventions on the same day and in the same order each day throughout the entire phase. In addition, the design is similar to changing criterion design because each participant had to reach a criterion level of 66% within a stimulus group prior to moving to the next one.

The participants were three preschoolers with ASD. Grouped with each participant were three models, one typically developing sibling, one typically developing peer model, and one adult model. Erin was 45 months old, who communicated using one word responses to questions and rarely initiated communication. Jerry was 47 months old, who expresses himself using short

sentences, rarely initiated interaction except to request preferred items or activities, and maintained a large functional vocabulary. Jennifer was 62 months old, who communicated with peers and adults when approached but uses one and two word phrases, and she maintains a large functional vocabulary. The parent reported that she communicates in complete sentences but would often revert to short simple phrases and words when approached by other children.

The sessions were conducted in the hallway outside of the target child's classroom. During the session, the experimenter prompted the model by showing a picture card of an action, profession, or opposite and asking a question about the picture. After the model correctly responded, the experimenter provided verbal feedback to the model, then gave the same visual and verbal prompt to the target child and waited 5 seconds for a response. If the target child responded correctly, the experimenter will provide verbal feedback and continued to the next picture card, if the target student responded incorrectly, the experimenter would not respond and move on to the next picture card. After nine trials with one model, the process was repeated with the next model using different picture cards, but within the same group. Each session was conducted approximately 5 minutes for each model for a total of 15 minutes per day. Data was collected on the number of correct responses the target child gave to the questions about the modeled picture cards. All responses that occurred within the 5 second prompt and included the correct noun or verb were scored as correct, regardless of utterance length or structure. A criterion level for successful completion of a stimulus set (action, profession, or opposites) with a particular model was achieved when the target child responded correctly to 66% of the target picture cards. Intervention for each stimulus set lasted at least three sessions and until the target child reached criterion with at least two models.

All the target children quickly responded to the implementation of modeling across all stimulus sets and across almost all models. Erin reached criterion level for all sets and with all models. Jennifer and Jerry reached criterion level with the sibling and peer models but not with the adult model. During maintenance, Erin and Jerry were able to correctly label the picture cards at least 66% of the time, Jennifer's data collection was discontinued due to the school year ending.

This study provided empirical support for the usage of sibling, peer, and adult models to increase novel language skills because the target children demonstrated a significant behavior change from baseline through the maintenance phase. However, there is no information if there was an improvement in the student's language skills in the classroom environment. In addition, the study did not report data if the teachers noticed a change in the child's language skills.

The last study to be reviewed is different than the other four studies because it uses an AB single subject design with older children. Yang, Schaller, Huang, Wang, and Tsai (2003) investigated the effects of a social emotional skills curriculum for girls and boys with autism conducted in a resource room on promoting positive social behaviors in the general education classroom in Taiwan. The overall purpose was to assist children with autism to integrate into general education classrooms and focused on helping them to reduce the discrepancies between their social emotional level and intellectual level. The participants included two girls and four boys from public elementary schools, who have been clinically diagnosed as having autistic disorders. The first trio (Jane, Jack, and John) have autism and mental retardation. They understood simple commands but had very limited expressive language using only two word phrases. The second trio (Debbie, David, and Dan) were high functioning children with autism. They were verbal and could

answer simple questions in complex sentences. The participants' ages ranged from 7 years 9 months to 9 years 9 months. John and David were in the control group and did not receive the social emotional skills curriculum.

The intervention was conducted in the student's resource room, which they attended 4 to 6 hours per week, which was not in their home schools. The observation was conducted in the student's general education classroom, which was in their home school. In the resource room, a social emotional curriculum was used to teach the participants social and affect skills. The training was conducted for 80 minutes per week for 13 weeks for the experimental group. Teachers followed the 12 units of the curriculum in a spiral sequence. The students were observed in the general education classroom to assess generalization of skills taught while in the resource room. The homeroom teacher will take data using the Behavior Record Form on the student's daily progress. An event recording was used to describe the students' positive social behaviors.

Results indicated that all four participants in the experimental group significantly increased frequencies of positive social behaviors over time, while the two control participants did not. After adjusting for trends, the training had a medium effect size for Jane and David and a small effect for Jack and Debbie. However, there is no information if these behaviors were maintained, since no follow up was conducted and there was no information if these behaviors were generalized into the home environment.

The curricular activities were age appropriate, functional, and socially valid for children in Taiwan. The curriculum was developed to use small group instruction of children with autism to assist in developing attending behaviors, social skills, and affect skills in the general education classrooms. In addition, the promotion of social emotional skills development for children with autism is important. However, the study did not provide empirical support on the usage of the social emotional curriculum because the behavior change was inconsistent, even though the researchers stated positive results. Also, there was no functional relationship; it is difficult to pinpoint which specific components are directly responsible for the change in the participants. Some other limitations to this study, was there was not a follow up period and there is no mention if the teachers or the parents noted a change in the student's behavior.

Conclusions

Early intervention is the key in children with ASD to develop social communication skills. The literature review demonstrated the importance of training in naturalistic settings, evident by three out of five of the studies. Two of the studies were conducted in the classroom while the third was conducted in the clinic playroom; however data was taken to see if the children were generalizing their language skills in the home setting. A benefit of integrated classrooms is that children with disabilities are able to observe and learn from their typically developing peers. Despite the belief that observational learning is a benefit there is little research examining how best to teach children with disabilities to become observational learners (Jones & Schwartz, 2004). The study of Jones and Schwartz (2004) using sibling, peer, and adult models to increase novel language skills demonstrated a behavior change in the target behaviors. However, the authors did not provide data if the children generalized the novel language skills into the classroom. One area of future research would be to use the same methods approach with a peer model but add

modeling complete sentences of 3 to 4 words describing the picture cards and generalization sessions to demonstrate if the student is using the new language skills during freeplay.

Research Question

What are the effects of a typical peer as a model for preschool children with autism in developing novel social communication skills in a naturalistic setting?

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Effects of an Anorexia Treatment Intervention on Weekly Vocabulary Exams

Cathy Thompson

The prevalence of eating disorders over the past five decades has increased insurmountably in countries such as the United States, Australia, and the United Kingdom. Approximately 1% to 2% of young adults suffer from severe eating disorders, and 25% of college aged women are thought to be at risk for developing eating disorders (Winzelberg, Eppstein, Eldridge, Wifley, Dasmahapatra, Dev, & Taylor, 2000). Disordered eating habits as well as disordered body image and low self-esteem have been seen in children, mostly girls, as young as six years old (Wade, Davidson, & O'Dea, 2003). Due to the media focus on thinness as the predictor of beauty, this issue continues to be a problem for each generation. Although the entertainment industry seems to be the easy target of blame for this issue, it is not fully responsible. Genes and environment are playing increasingly more important roles in the emotional well being of young girls. A more accepting and loving environment may override a genetic predisposition (such as depression) toward mental health issues that may be the underlying cause of developing eating disorders.

Preventative programs for eating disorders that have been designed to decrease risk factors for eating disorders in children have been largely discouraging (Wade et. al., 2003; Winzelberg et al., 2000). The main issue preventing these programs from being successful is the lack of standardized instrumentation (Wade et al., 2003).

Examples of single subject research designs that link eating disorder intervention programs to academic success are extremely difficult to find in current research. Search engines such as scholar.google.com as well as PsychINFO and ERIC databases were used to find relevant articles. Key words such as anorexia, eating disorder interventions, assessment, and academics were used. Reviews of previous literature as well as intervention strategies and techniques are common and provide an excellent framework for the intervention, but academic progress is rarely monitored. Addressing the underlying psychological issue from which eating disorders result may produce a more well rounded individual, thus leading to an increase in academic, social, and emotional success. But this theory has not been demonstrated as of this date.

Review of Relevant Research

The most common and most effective eating disorder intervention program involves cognitive behavioral therapy. This therapy can be implemented by the family, the individual, or through a combination of both family and individual. In comparing the two therapies, Russell, Szunukler, Dare, and Easler (1987) determined that for early-onset anorexia nervosa, family therapy is most effective, while for late-onset anorexia nervosa, individual therapy was superior. The study by Robin, Siegel, Moye, Gilroy, Dennis, and Sikan (1999), investigated a similar approach by using behavioral family systems therapy (BFST) compared with an ego-oriented individual therapy (EOIT).

The participants in the study by Robin et al. (1999) were female adolescents who met DSM-IV criteria for anorexia nervosa. They were randomly assigned to either BFST or EOIT groups as well as assigned to a therapist. Therapy sessions occurred for approximately 72 minutes

for BFST and approximately 45 for the EOIT group, weekly for the first half of therapy (about 6 months), then bimonthly for the remainder (another 6-12 months). The amount of weight gain appropriate for each patient was adjusted according to her height and weight. The patients averaged about 1 pound of weight gain per week. According to Davies and Jaffa (2005), an average of .5g-1.0kg per week is recommended.

The BFST consisted of three phases. In the first phase, the parents were taught to take charge of their daughter's eating and weight gain. The therapist coached the parents in developing and implementing a behavioral weight gain program, involving preparing and monitoring their daughter's meals, regulating exercise, and establishing clear cut consequences for not consuming all of the required calories (Robin et al., 1999). In the second phase, the parents have already taken charge of their daughter's eating and weight gain, so the therapist moves forward and shifts the focus onto cognitive distortions and family structure (Robin et al., 1999). Cognitive restructuring techniques were used to correct the patient's body image, but the details of the techniques were not specified. The third phase was reached once the patient reached her target weight. The parents then allowed their daughter to gradually regain control over her own eating habits.

The EOIT consisted of weekly therapy sessions with the patient and bimonthly collateral sessions with the parent. Individual sessions focused on the patient's ego strength, coping skills, individuation from the nuclear family, confusion about her identity, and other interpersonal issues regarding physical, social, and emotional growth and the relationship of these issues to eating (Robin et al., 1999). This individual therapy involved increasing the patient's self-acceptance and decreasing poor identity formation that is associated with the pursuit of thinness (Robin et al., 1999).

The aforementioned techniques are socially, emotionally, and behaviorally valid. This is a social problem and the behavior is able to be changed. It also helps increase self-perceptions, thus making it emotionally valid.

Anorexia nervosa in the patients were defined according to the following assessments: the Quetelet Body mass index (BMI), which divided the weight in kilograms by the height in meters; the eating attitude test, which the patients reported their own eating attitudes and habits; ego functioning, which assesses ineffectiveness and interpersonal distrust as a measure of ego functioning; depressive affect subtest of the Beck Depression Inventory; and family conflict, which was assessed through a parent adolescent relationship questionnaire (Robin et al., 1999).

The dependent variables involved in this study were BMI, eating attitudes, depressive affect, ego functioning, and family relations. The independent variables were the BFST and EOIT therapies.

The results indicate that both therapy methods are effective treatments for anorexia nervosa in adolescent females. For the girls in the BFST treatment group, four fifths reached their target weights by the one year follow up, and all dependent variables showed significant improvements. The EOIT treatment group had two thirds of the girls at their target weight at the one year follow up, and significant improvement on all dependent variable measures as well.

The major limitation of this study is that there was no control or comparison group. Assigning seriously ill adolescents to a control group would have been unethical in this situation. Another limitation is that several participants did not participate at follow-up. This may have biased the results in the event that those girls who were less successful with the treatment did not participate in the follow-up (Robin et al., 1999).

As noted earlier in the paper, a .5-1.0 kg weight gain per week was derived from the national institute for clinical excellence (NICE), and cited by Davies and Jaffa (2005). Davis and Jaffa (2005) carried out a retrospective analysis of medical records in order to determine the average weight gain from adolescents with anorexia nervosa.

The setting was The Phoenix Center, an inpatient unit for adolescence with anorexia nervosa. The center focused on helping patients live more successfully with anorexia nervosa through symptom and weight restoration, psychological interventions to help patients recognize and deal with anorexic thoughts and behaviors and rehabilitation to aspects of normal life (Davies & Jaffa, 2005).

Data was collected from the medical records of 53 inpatient admission (44 different patients) admitted and discharged within a two year period (Davies & Jaffa, 2005). The data that were analyzed were height and weight at admission, weekly weight changes throughout inpatient stay, and target weight. After all calculations were complete, it was found that the average weekly weight gain was .82kg, with most patients gaining between .5-1.3kg per week. This is consistent with the recommended weight gain as recommended by the NICE, but it does not provide an answer as to what is the optimum weight gain (Davies & Jaffa, 2005). Although an optimum weight is not known, a good heuristic for weight gain for anorexia nervosa patients is to aim for .5-1.0kg per week, as studies have demonstrated that weight range easily achieved with appropriate treatment.

Although therapy has been shown to be the most effective intervention for patients with anorexia nervosa, it is not the only intervention. Winzelberg et al. (2000) hypothesized that in order to reach the target population (25%-35% of college aged women), interventions need to be relatively inexpensive and standardized. In order for this to occur, Winzelberg et al. (2000) implemented an interactive multimedia computer program and e-mail discussion group to focus on changes in body image. This multimedia method approach was an extension of preliminary work with a CD-ROM developed by the Student Bodies Program (Winzelberg et al., 2000). The computer-assisted health education (CAHE) program can be tailored to the user's needs.

The participants were college aged students recruited from advertisements, fliers, and presentations. The only requirement was a desire to improve body image satisfaction. Those who noted having current eating disorders were eliminated from the study. Although girls presently struggling with an eating disorder were unable to participate, it is thought that this program would generalize to others upon demonstration of effectiveness of increasing body satisfaction.

The program was conducted as an eight week long intervention delivered through the internet. Each week, the participants posted discussion questions related to that week's exercises and assignments. This forum was aimed at providing a forum for participants to receive emotional support (Winzelberg et al., 2000).

The discussion groups were analyzed using frequency and time, and upon completing baseline measures they were randomly assigned to the Student Bodies program, or a delayed-intervention control group. The dependent variables were measured using the Body Shape Questionnaire, and Eating Disorder Inventory. At posttest, the intervention participants completed a 4-item on-line social support scale adapted from the multidimensional scale of perceived social support (Winzelberg et al., 2000).

The results demonstrated that upon completion of the internet-delivered CAHE, body satisfaction, which is a potential risk factor in the development of eating disorders, can be improved. Despite the promising results, more research in this area of internet-based interventions is needed.

School-based self-esteem enhancing programs can also be used as a preventative measure of decreasing the possibility of adolescence developing eating disorders. In a study by Wade et al. (2002) a school-based program for reducing eating disorders was used, and a follow-up study by the authors investigated the enjoyment and perceived value of the aforementioned program.

The study states that self-esteem, weight concern, body dissatisfaction, and dietary restraint are all risk factors in the development of eating disorders. A student-centered approach was adopted and the authors developed a media literacy program which empowered students to adopt a critical evaluation of the media to challenge the thin ideal, as well as a prevention program through a self-esteem enhancement approach to reduce risk factors for eating disorders (Wade et al., 2002).

The participants were 53 boys and 33 girls in the 8th grade. They were assigned to either a control condition, self-esteem program condition, or a media literacy program. The intervention was implemented over five sessions.

The media literacy program was adapted from the GO GIRLS (EDAP, 1999). The teacher had input as to how much time and effort would be placed on the intervention. Literacy, activism, and advocacy were key concepts which were discussed about messages about thinness in the media. The self-esteem program contained a central message that everybody is different, and we should not try to conform to stereotypes (Wade et al., 2002). A self-esteem program was implemented because it has been identified as a risk factor for the development of eating disorders. These programs have demonstrated reliable and valid results, thus making the programs socially, emotionally, and behaviorally important.

Instruments that measured risk factors include the Eating Disorders Questionnaire (EDQ) and the Self Perception Profile for Adolescents (SPPA). The EDQ measured the presence and degree of specific psychopathology associated with bulimia nervosa and anorexia nervosa over the previous four weeks, specifically measuring weight concerns, shape concerns, and dietary constraints (Wade, et al., 2002). The SPPA measured the multidimensional nature of self-evaluative judgments as well as the individual's overall sense of self-worth (Wade, et al., 2000).

This study used an A-B-A research design. Baseline, intervention, and post-intervention data were obtained. Self-concept measures did not demonstrate any gender effects, but girls did

show higher levels of weight concern than boys. Those in the media literacy group showed slightly higher levels of self-concept at post-intervention. It should be noted that the media literacy program, when combined with a self-esteem enhancing, student-centered teaching style, was more effective in increasing self-esteem than the self-esteem program alone (Wade et al., 2002).

In order to view the student's opinions about the Wade et al. (2002) study, the authors decided to further the study and investigate the perceived value of the programs as well as their enjoyment. The authors decided to further this investigation due to the largely discouraging results of prevention studies with adolescents.

Upon completion of the intervention programs, the students completed a feedback form assessing level of enjoyment and value of each lesson: 95% of the students in the media literacy program said that the lessons had been valuable for them, whereas 64% of the students in the self-esteem classes said that the lessons had been valuable (Wade, et al., 2003). Feedback from the students suggested that both interventions seemed to help them become more accepting of themselves. This indicated that both interventions are potentially relevant in helping 'inoculate' young adolescents against the development of an eating disorder (Wade, et al., 2003). This feedback from the participants is crucial in determining how adolescents view different preventative programs.

The previous interventions (therapy, internet, school-based) all have strengths and weaknesses. It is important to individualize intervention plans to each adolescent in order to maximize their results. Once an intervention has been established and implemented, the impact on the student's academic work should then be examined.

Statement of the Problem

The purpose of this proposal is to evaluate the effectiveness of an anorexia treatment program on high school students' weekly vocabulary exams. Recent studies have demonstrated the effectiveness of multiple intervention programs on food intake and retention, but not their effects on academic performance. It is hypothesized that as the patient increases food intake and increases self-esteem, that the student would also demonstrate an increase in retention of knowledge and show improvement on weekly vocabulary exams.

Research Question

What are the effects of an anorexia treatment intervention on adolescent vocabulary exams?

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The Impact of Note-Taking Strategies on Comprehension of High School Students with Specific Learning Disabilities

Caridad H. Unzueta

For the most part, high school teachers in the United States expect and require students to behave a certain way in class. All students are expected to come prepared to learn, meaning ready to work with books and notebooks when the bell rings. All students need to complete their assignments and to submit it in an orderly fashion. Most importantly, teachers expect that all students will take good notes as they listen to lectures.

This is the tricky part; creating and keeping "good notes". What exactly does this mean? Who is responsible for teaching the students how to accomplish this task? Even more importantly, who is going to make sure that all students are taking notes, including the students with special needs?

Research shows that general education teachers spend more than half of their time lecturing (Weishaar & Boyle, 1999). As the teacher lectures, the students are expected to be taking notes. This may be a perfectly fine activity for the average student, but what happens to the student with ADHD, or fine motor problems, or specific learning disabilities? The disability may interfere with active listening. The dual tasks of listening and notetaking may be confusing, or the student's pace may be too slow. As the teacher is on one topic, the student may be taking notes on a topic introduced earlier. This then becomes a hindrance to the student in his learning and assessment. Research has shown that there is a positive correlation between note-taking and test performance (Hughes & Surisky, S.K.1994).

In trying to solve this problem, some general education teachers have relied on other students to write notes for their classmates, prepare pre-written notes for them, or to ask the special education teacher give them extra help (Boyle, 2001). Although this allows for the student to focus on the actual lecture, active learning may not be taking place by having students just listen. If they were taking written notes, then they would be engaged in the learning process, and this would also help the students clarify information and process it for long-term memory (Weishaar & Boyle, 1999). The problem is finding the best solution for students with special needs that will maintain them as active learners before, during and after a teacher's lecture.

In order to find the best solution, we must first understand what constitutes note-taking and its impact on students with special needs. There are two general types of note-taking categories: teacher-directed and student-directed (Weishaar & Boyle, 1999). Teacher-directed are opportunities given by the teacher to the students to clarify their notes as the lecture is taking place (British Columbia Department of Education (BCDOE), 1996). The teacher may pause, speak a little slower, emphasize important points by repeating himself/ herself or even provide pre-defined organizers for note-taking (BCDOE, 1996). These are all things the teacher can do to help the students in their note taking. However, the teacher, in essence, controls these activities and can choose to continue or discontinue the process. The student may have not mastered the ability to take notes and may not necessarily be prepared to study from them.

Student-directed note taking gives the control of studying fully to the student. The student stays at the same the pace of the teacher by jotting down relevant information as it is presented in the lecture. Shorthand or abbreviations may help the student maintain the teacher's pace. There are three types of note-taking proven to be successful for students with learning disabilities: columnar notes, guided notes and strategic note-taking (Weishaar & Boyle, 1999).

Columnar note-taking is a method of separating relevant information into categories. The student divides his paper into multiple columns. The first is used for topic statements. The second for background information and the final column is for questions (Weishaar & Boyle, 1999).

Guided notes are handouts prepared by the teacher with a few cue phrases that help the students remember when they should be writing information down (Boyle, 2001). Teachers bullet the main words or create a shell of an outline for the students to fill out as the lecture takes place. This is a major advantage to guided notes and it's downfall. While giving the shell of an outline is good to help the students get a structure, it also lists the main ideas prior to learning and the student is not the one setting the structure(Weishaar & Boyle, 1999). A problem with this is that the student has not necessarily mastered the techniques and skills needed to produce their own notes that include the important information from the lecture. Secondly the student does not have ownership of the notes and possibly has not internalized the material.

The third strategy is strategic note-taking. This method was specifically created to help students with learning disabilities. The students are given a paper with certain cues pre-written for them. The first cue asks the students to identify the topic followed by three to seven main points on each topic discussed (Weishaar & Boyle, 1999). Lastly, the students are asked to summarize the main points. The process is repeated for each topic discussed in the lecture. This method can be replicated in any class and teaches the students to focus on the main points while at the same time, organizing the student's thoughts and understanding.

Review of the Literature

In the following section, three studies pertaining to note-taking were reviewed. These studies were chosen after extensive searches through Google scholar, Eric, Proquest, Wilson Web, Questia, Eric First Choice and taking from the reference lists of documents. The first study involved strategic note-taking and students with learning disabilities. Another study focused on comparing the note-taking skills of students with and without disabilities. The last study discussed here focused the student's processing ability and note-taking.

Boyle and Weishaar (2001) studied strategic note-taking and students with learning disabilities. The purpose of this study was to discover if this specific method of note-taking would be beneficial to students with specific learning disabilities. The researchers divided 26 students (22 with specific learning disabilities and four with educable mental retardation) into two groups, a control and experimental group. The students enrolled were either in an English class or science class taught by special educators. Both groups were shown a video-taped lesson that simulated a typical high school lecture. The experimental group was taught the strategic note-taking format while the control group was simply asked to take notes as best they could. The number of words recorded in the notes by each student was recorded and tabulated. The number of key vocabulary

words that were specific to the lecture was also recorded. After two days, the students were tested on memory recall of the video. They were prompted to record as many facts and details as they could from the video.

Boyle and Weishaar (2001) found that this technique was more effective than students just taking notes. Students took more notes, recalled more words using both measures and improved their comprehension level of the lecture. Overall the students were found to have a better preparation with the strategic note-taking format.

However, this study did have its limitations. The students tested were watching a simulated lesson on tape; versus the live teacher they normally face. It is possible that given any form of instruction the students in the experimental group would have still scored higher due to the Hawthorne effect. In other, any method used for note-taking would have rendered positive results. The fact of receiving help would alone be enough to produce the scores. Although this study specifically looked at students in a special education classroom, the majority of our students are in mainstream or inclusive settings. This study only addressed a select group and its replication in a general setting may be difficult.

From this study, important findings arise that need further investigation. First, the increase in memory recall by using this format is incredible. On average, the students listed 23 more words in immediate free recall than the control group. Replication of this format should and needs to be studied in a longer-term study, possibly a multiple-base line study to see the effects of this method on multiple students with disabilities in general education classes. Second, the strategic note-taking seemed to work well with students with disabilities. This should be further studied with real lectures and real subject matter. The use of the video may be an extraneous variable causing the results to be skewed a bit. Also the use of video does not provide for a normal lecture scenario. Finally, the success of the memory recall also needs to be tested as far as curriculum tests are concerned. The study focused on how much the students recalled; our teachers focus on application of knowledge more than just recall of knowledge.

Hughes and Surisky (1994) focused their research on note-taking as well. They studied students with special needs and what their current level of note-taking skills were during their sophomore and junior year of college. A total of 60 students participated in their research project on note-taking. Thirty had specific learning disabilities as determined by their records. There were 17 males and 13 females, all around 22 years of age. The other thirty students came from the elementary education or communication disorder schools at the university. Twenty-eight of the participants were female. The average age was 20 years.

Both groups were asked to watch a video-taped lecture on models of human memory. The students without learning disabilities watched the video during one of their scheduled class periods. The others were given two other options to view it. Participants were instructed to watch the video and to take notes on it. No instructions were given as to how these notes were to be taken. At the end of the session, the notes were collected and analyzed. Two investigators randomly analyzed the notes for percentage of cued information, percentage of non-cued information, and percentage of total information recorded. They also randomly checked each other's analysis for inter-rater reliability.

The results showed that notes of the students with learning disabilities were not as complete as the other group (36% versus 56%). On information cued, students with no disability were at 77% as compared to 46% for students with disabilities. Overall, this study showed that there was a discrepancy between the notes taken by the two groups. Students with learning disabilities were at a disadvantage to the rest of the students as far as receiving and retaining information from lectures.

There were some limitations to this study and some further investigations would be in order as well. The researchers used a videotaped lecture. Although this helps in consistency, a live lecture would have been truer to real life. The participants were not randomly selected, and a whole group came specifically from the fields of education and psychology, where they may have been trained in note-taking strategies. The notes were not analyzed against the results from an exam to test for recall and retention. If the whole purpose of notes is to help the student retain and recall more information, then the students should have been tested to see how they would perform. A follow-up study to this one could be conducted to determine if specific training in note-taking would help the students in their lecture courses.

Kiewra and Benton (1988) examined the relationship between the note-taking behaviors during a lecture and the actual outcomes of the students when tested on the material. Although the authors did not look specifically at students with learning disabilities, they did study the relationship between notes, retention of information, and recall of information. A total of 32 volunteer students enrolled in an undergraduate educational psychology course were tested for information processing ability by giving them six scrambled sentences and having them unscramble them under a timed setting. The rationale for giving this test was that the process used for unscrambling the sentences in one's head and simultaneously writing it down is the same as the process required for taking notes. Then the students were shown a 20 minute lecture on a videotape and asked to take notes. The notes were collected and returned 48 hours later. At that time, they were given 25 minutes to review their notes before taking an 18 item test on the video lecture seen. Lastly, as the semester continued the students were given five more lectures (not on videotape) and then a final comprehensive exam. Throughout the study, no specific skills were taught on how they should be taking notes.

The results showed that there is a correlation between note-taking and academic achievement and a major aspect of note-taking is that one can hold information and process it at the same time (Kiewra & Benton, 1988). The better a student is at taking in the information and writing down key information, the better the student would be at achieving high scores on exams.

The authors linked note-taking to actual achievement on exams. The use of the video for the first portion of the study limits the study in that a true picture of lectures is not shown. However, the subsequent lectures were all live, thus giving a better view of the classroom dynamic. Another limitation of this study is the wide range of ability of the students. Although the student's abilities were not mentioned in this study, it is possible for some to test highly on an exam and not take many notes. The study would have been more complete if all students had the same ability.

Even though this study did not target the skills of students with learning disabilities, it does give great insight into how all students process information and take notes. By analyzing this process, we can now focus on finding solutions for struggling students and note-taking.

Summary

It is hard to believe that for all the time that teachers spend emphasizing the necessity of taking notes, that there currently is little to no new research being done on the subject. Many have written about the increasing need to teach the students skills and strategies to improve their note-taking but actual research on the subject is rather scarce. The studies reviewed here can open up the path to future research on note-taking.

There is a strong need to conduct longitudinal studies on the effects of note-taking. As more and more of our students with special needs get placed into general education classrooms, the need also arises for the studies to include them. It is important to find ways in which to improve their study skills and their comprehension of material so that they can be at the same pace as the rest of the class.

Research Question

In this study, the researcher will study individual students with specific learning disabilities enrolled in general education classrooms. The following questions will be investigated by the researcher:

1. Will teaching high school students with specific learning disabilities a specific technique for note-taking and studying help improve their scores in general classroom exams?
2. Does the technique used have a significant impact on their scores?
3. Will the student's classroom participation and class discussion rise after learning the strategy(ies)?

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Effects of Cross-Age Tutoring on Literacy Skills of Students with Emotional and Learning Disabilities

Dolores Vazquez

American schools face the challenge of educating the world's most diverse students, encompassing variations in achievement, socioeconomic status, cultures, linguistic background, and disabilities (Saenz, Fuchs, & Fuchs, 2005). Students with the dual-risk of having emotional and behavioral disorders in conjunction with a learning disability are a serious problem in a school setting. These students carry a burden that children with other disabilities do not, as many believe that they can control their actions and could stop their disturbing behavior if they wanted to (Kirk, Gallagher, Anastasiow, & Coleman, 2006). Anxiety, withdrawal, violence, or attention deficit coupled with a learning disability affects learning. Students are easily distracted, have difficulty persisting at tasks, and often fall significantly behind in school. This specifically presents an obstacle in literacy.

Students with emotional and behavioral disorders experience difficulty with phonics, phonemic awareness, fluency, comprehension, and vocabulary, the five central concepts of reading, compounding their pre-existing social and emotional challenges. Scott and Shearer-Lingo (2002) emphasize that, "without intervention, these students are far more likely to fail their way out of school and continue to fail throughout their lives" (p. 167). Reading skills add uniquely to the prediction of high school dropout in students with behavioral and academic problems (Gest & Gest, 2005). For these reasons, it is critical that individual needs, especially literacy, be addressed through on-going interventions that deflect the trajectories of these students in a positive direction.

Various studies emphasize that these students must have a chance to interact with children who do not have disabilities, have constructive models of behavior, and keep up academically (Kirk, et al., 2006). Among the many techniques that meet the needs of a broad range of students is cross-age peer tutoring, which has been used effectively across a broad range of disabilities to increase performance, engagement, and appropriate behavior of students (Burks, 2004). It has also been suggested as an appropriate educational intervention for young readers, namely those with learning disabilities and those at risk. Cross-age tutoring is a method of instruction in which learners help each other and, in turn, learn by teaching. Cross-age tutors are students in higher grade levels who, with minimal training and teacher guidance, help younger students learn skills, concepts, or positive reading attitudes (Fisher, 2001). This literature review summarizes several studies addressing cross-age peer tutoring and its effects on student learning.

Review of Literature

Examples of single subject designs that link cross-age and peer tutoring to the instruction of students with disabilities were found in current research. Not much research has been conducted specifically with elementary students with emotional and behavioral disorders and learning disabilities. This limited the search results significantly. However, most articles addressed the impact of cross-age tutoring on students with disabilities, as well as on those engaged in tutoring others. Databases such as ERIC and Questia have been helpful in obtaining the articles used in this study with search terms such as cross-age tutoring, peer tutoring, learning disabilities,

emotional disorders, behavior disorders, primary students, and literacy. Good examples of research link cross-age peer tutoring for students at academic and behavioral risk and reveal the relationship between one-on-one tutoring of students with learning, behavioral, and emotional disabilities with reading improvement.

Limbrick, McNaughton, and Glynn (2005) engaged in a study that yielded gains in words read accurately, self-corrections, percent of comprehension questions answered accurately, and reading level. In the study, the tutor introduced the book, and then read the book with the tutee. The student being tutored then let the tutor know when he was ready to read the book aloud to the tutor without any assistance. When a mistake was made, the tutor modeled the correct word and provided positive feedback when the child self-corrected and attempted unknown words. Both students later discussed the story.

The results of this study demonstrated that the gains for the tutored students were high. The tutees doubled their accuracy and self-correction. At the beginning of the study, the mean reading level demonstrated that students were eighteen months behind. It was reported that the students gained an average of thirteen months in reading level on a standardized reading achievement test. The tutors benefited from the intervention, as well. Sight word recognition, comprehension, and fluency were improved as they tutored others. One tutor began the study answering 50% of comprehension questions correctly, and that by the end of the study, 81% of his answers were accurate. The other two tutors gained from 49% to 78% and 54% to 84%, respectively. Cross-age tutoring resulted in the tutors being more effective readers, as well. This study effectively revealed the relationship between cross-age tutoring and improved literacy skills for both the student who was tutoring, as well as the student who was receiving the intervention. However, it had various limitations. The study did not clearly define the ages of tutors and the tutees. Even though the study included students with difficulties in reading, students with disabilities or with emotional and behavioral disorders were not included.

Burks (2004) used an ABAB design to study three fifth grade students with learning disabilities who engaged in a seven week intervention using class-wide peer tutoring in spelling. The strategies in this intervention included social reinforcements for responding correctly and correcting errors, as well as practice of new content, immediate error correction, and public posting of team points. During the seven-week intervention phase, class-wide peer tutoring was implemented once a week for about twenty minutes per session. Students were randomly paired with another student each week. One student in the pair served as a tutor for ten minutes, while the other student was the tutee. After ten minutes, roles were switched for another ten minutes, allowing each child to participate as a teacher and as a learner. The tutor read the assigned spelling words to the tutee, who wrote down the words. The tutor checked the words for spelling accuracy; if the word was spelled incorrectly, the tutee had to spell the word correctly three times for practice. Each pair of students received two points for each word spelled correctly, one point for corrected words, and no points if the student could not spell the word correctly after the third attempt. In addition, the teacher awarded one or two extra points to teams that exhibited on task behavior. The objective of the session was for each team to accrue as many points as possible during the allotted tutoring time; team points were posted on a scoreboard that was visible to all students. This entire process started over again each week upon the introduction of new spelling words.

The first student increased spelling accuracy from 70% to 95% words spelled correctly. The second student increased from 74% to 85%, and the third from 76% to 91%. The peer tutoring improved the academic achievement of students by increasing their percentages of words spelled correctly. The results suggested that peer tutoring may be an effective way to teach spelling words to students with learning disabilities. They were encouraged to do well, and the positive reinforcement and interaction with peers were motivating. Peer tutoring proved to be successful with this one aspect of literacy. Limitations of this study included the fact that, even though class-wide peer tutoring was being implemented, so were other forms of spelling practice. Writing words with shaving cream, crossword puzzles, sentence practice, and taking spelling tests continued simultaneously with the peer tutoring. These factors may have affected the results of the study.

Davenport, Arnold, and Lassmann (2004) reported that peer tutoring has been found to be more beneficial than reduced class size, greater instructional time, or individualized computer-assisted learning. Their study determined the effects of cross-age peer tutoring between students with learning disabilities on the reading attitudes and achievement of kindergarten students. The tutoring program met the literacy needs of the ten fifth graders, as well as provided literacy experiences for fourteen kindergarteners. Fifth graders served as tutors, who read library books that were pre-selected for the kindergarten students and asked questions about predictions, inferences, and conclusions. They later assisted the younger students in taking Accelerated Reader quizzes, testing the comprehension of the literature read. Data from The Elementary Reading Attitudes Survey and Brigance Comprehensive Inventory of Basic Skills suggests that the fifth graders were successful in tutoring their younger peers. Both groups revealed positive attitudes toward reading. Academic gains in both groups ranged from half a grade level to a grade level and a half.

This is a good study, as teachers reported that older students gained self-confidence, younger students worked with positive role models, and both groups improved academically. The study differed from many because the students with learning disabilities were included in tutoring general education students. Affectively, this is innovative. Generally, the students with disabilities receive the tutoring. In this study, allowing the fifth graders to interact with younger peers empowered them to hurdle the obstacles of their own deficiencies.

Saenz et al. (2005) conducted a study in which peer tutoring was implemented, specifically using Peer-assisted Learning Strategies (PALS), a reciprocal class-wide peer-tutoring strategy with different grade levels. The strategy included activities such as partner reading with retell, paragraph shrinking, and prediction relay, increasing reading fluency and comprehension. The researchers described students with learning disabilities as passive readers who exhibit a limited set of reading behaviors. They lacked specific skills in analyzing reading tasks, reading strategically, and constructing meaning from text. Conversely, strong readers tended to be active learners who set a purpose for reading, monitor their own comprehension, and use context clues. PALS provided opportunities for students to practice the strategies that good readers employ.

Of the eleven students studied in each class, two had a disability. PALS was conducted three times per week for 35 minutes per session throughout a fifteen week period. Students were paired (later rotated every 3 to 4 weeks); within each pair, during each lesson, both students served as tutor and tutee. Students took turns reading the same passage. Tutors pointed out errors such as adding a word, omitting a word, or taking longer than four seconds to decode a word.

When a student made an error, the tutor identified the problem and prompted the tutee to work toward self-correction. Teacher responses to surveys revealed that PALS increased the overall reading achievement of students, helped improve their social skills, and helped increase the reading self-confidence of students. Student questionnaires indicated they became better readers, better coaches, and better friends.

A limitation of this study is lack of strong statistical significance. This particular study measured success affectively. Even though these affective factors are important, the study could have assessed reading growth mathematically. The Comprehensive Reading Assessment Battery was administered, allowing students to read aloud from a folktale and answer comprehension questions, although the authors did not report the scores or measure of reading fluency and comprehension.

Summary

The research reviewed has confirmed that cross-age tutoring programs are successful. Specifically, gains in literacy by students in these programs have been noted. The students being tutored improved in vocabulary, word accuracy, fluency, and comprehension. The students engaged in tutoring (instructing) make substantial gains, as well. In addition, both groups of students learn and apply the strategies that effective readers use, thus, making them more efficient, as well. The more exposure to explicit practice of reading strategies with a peer tutor, the higher levels of reading achievement and positive attitudes toward reading are achieved (Marius, 2002).

Cross-age tutoring engaged students in practice that enhances literacy abilities. They foster student reading attitudes, fluency, and comprehension, responsibility, empowerment, and motivation (Barone & Schneider, 1997). It encourages students to be interdependent and responsible for the learning of others. They must take responsibility for their own learning and later that of the instruction of another student.

From the results of the studies reviewed, it can be hypothesized that if a child with a learning disability in conjunction with a behavioral or emotional disorder is tutored by an older student, practicing reading strategies, then that child (or both) will have more academic success; cross-age tutoring can result in improved literacy skills for both tutor and tutee. In addition, if a child with a learning disability and / or behavior disorder serves as a peer tutor to a younger child, both children can improve their reading skills, as well as their self-esteem.

Research Question

This researcher proposes, then, that six fifth grade students with learning and/ or behavior disabilities tutor six students in grades K, one, and two (these young students are challenged with learning disabilities and emotional disorders). The fifth graders will develop and implement literacy experiences for these students. Will a child with a learning disability in conjunction with a behavioral or emotional disorder that is tutored by an older student have more academic success in reading? Will cross-age tutoring result in improved literacy skills for both tutor and tutee? Moreover, if a child with a learning disability and / or behavior disorder serves as a peer tutor to a younger child, will both children improve their reading skills, as well as their self-esteem?

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SOCIAL INTERACTIONS

The Long Term Effects of Behavior Modification Programs on Students Labeled Emotional or Behavioral Disorders

Lisa Barracos

Incidents of violent and disruptive behavior are increasing in the United States' public school system. Many of these incidents have been attributed to students with emotional or behavioral disorders (EBD). As such, students with EBD often demonstrate academic and behavior management challenges for educators. As a result, educators seek interventions that are effective in assisting students with EBD to manage their own behavior and achieve success in school. Therefore, it is not surprising that behaviorally based treatment and prevention approaches have involved the introduction of instruction in a manner designed to affect the behavior of participating youths in specific ways to help them become more successful members of their family, school, job, and community. Typically, behavioral treatment approaches have involved: a) the establishment of an incentive or contingency system in which reinforcing events occur upon selected behaviors (a token economy); b) the use of methods designed to teach or elicit appropriate levels of target behaviors; and c) the use of methods to increase the likelihood of maintenance of positive behavior changes (Taylor-Greene, 1997).

The degree to which we can have an effect on these students is directly related to our ability, as educators, to prevent the total number of problems that occur. In the average school, nearly one quarter of students can be expected to exhibit problem behaviors to some degree, while 3% to 7% can be expected to exhibit chronic problems that will require more directed and individualized efforts (Todd, Horner, Sugai, & Colvin, 1999).

In this review, various behavior modification programs were reviewed, focusing on the latency of the program's effectiveness on its participants, since the goal of special education programs is to help students with disabilities function in the least restrictive environment (Council for Exceptional Children, 1999). Most of the articles reviewed were reports of empirical studies found in search engines such as ERIC, Questia, WilsonWeb, and PsycINFO with key words ranging from the individual programs' names to behavior modification programs within ESE settings. The studies stated reliability factors by introducing data to support their findings. Participants within the studies ranged from elementary to high school age students and represented a cross-cultural population as well as varying socio-economic levels.

The Preventing-Acting upon-Resolving (PAR) Model

The term PAR refers to preventing, acting upon, and resolving troubling behavior was originally developed by Curwin and Mendler at John Hopkins University in 1988 (cited in Smith & Sugai, 2000). PAR is a process-based model in which collaborative teams of teachers, school administrators, parents, and related service personnel work together to create a structured school-wide comprehensive approach to discipline. PAR management procedures have been implemented in more than fifty schools, primarily in the Mid-Atlantic region. Data was collected from twelve (12) schools, eight (8) middle and four (4) elementary, for three consecutive years.

An initial intensive 3- to 5-day training process is required. This group is composed of teachers, administrators, paraprofessionals, related service personnel, and parents. With the assistance of a PAR facilitator, this team participates in a number of learning activities and processes (e.g., directed discussions, situational videotaped scenarios, and role-plays). Additionally, this group creates manuals with the information assimilated to meet the school's needs to distribute to all its stakeholders (staff, students, parents). Data must also be collected and analyzed regarding the frequency and intensity of behaviors requiring office referrals, suspensions, and expulsions as well as the purchase of incentives to use as positive contingencies.

In the PAR Model, participants address the physical design of the learning environment; scheduling and grouping; and school routines that promote predictability. Participants also review existing structures and develop guidelines to be used by all staff and students by coming to consensus on a mission, rules, expectations, and specific procedures. This is followed by the development of strategies for the delivery of positive consequences to promote and recognize rule compliance. An intervention hierarchy of negative

consequences for noncompliance and specific crisis procedures is also developed. Finally, specific alternatives for resolving persistent behavior problems are outlined, and an action plan for implementation of the system is articulated.

PAR school management programs are developed at three distinct levels:

1. Universal or school-wide interventions which include rules, procedures, consequences, and positive behavioral supports which are applied to everyone in a similar fashion.
2. Targeted or selected interventions such as behavioral contracts, contingency management programs, and direct instruction in behaviors related to success in school, instruction in social skills and counseling which are applied to students who require additional school-based behavioral supports.
3. Intensive interventions for students requiring multi-agency system of care (i.e. outside psychological or medical assistance).

Smith and Sugai (2000) used an ABA design to test the program's effectiveness in twelve schools.

Baseline data were collected on the number of office referrals as well as the perception of stakeholders as to the schools' climate. Teacher retention rates and job satisfaction was analyzed based on a survey distributed at the beginning and end of each school year. For ten of the twelve schools, there was a dramatic decrease in office referrals and suspensions ranging from 3% to 57%. For the most part, these decreases were accompanied by meaningful improvement in school climate as perceived by students and staff, decreases in teacher attrition and turnover, and modest increases in performances on state-mandated testing.

Token Economy System

Token economy systems have been effective across various grade levels, school populations, and school behaviors. Higgins, McLaughlin, and Williams (2001) studied a ten year old, third grade male who according to his teacher was exhibiting high rates of multiple disruptive behaviors including out-of-seat behavior, talking-out, and poor seat posture. The participant had normal intelligence but was below grade level in the basic skills of reading and written language and therefore met the state and federal guidelines for being labeled as learning disabled. The study took place in the child's classroom that included a certified teacher, a teaching assistant, and nineteen other third graders at an elementary school in a rural setting.

Three target behaviors were measured in the study:

- (1) Being out-of-seat without the permission of the teacher or teacher's aide;
- (2) Talking out loud in the classroom without being called upon by the teacher or teacher's aide unless a group response was requested;
- (3) Exhibiting poor seat posture which included legs splayed out, tucked underneath body or chair, or bent backwards around side of desk; slouching, arms and hands anywhere but on desk top, and lying on the desk in any manner.

A multiple baseline design across behaviors was used to evaluate the effects of the token economy. Baseline sessions consisted of a 20-minute period and were in effect for six to fifteen observation days. When any student displayed inappropriate behavior, the teacher would typically state a) the child's name, b) the inappropriate behavior, and c) request the appropriate behavior to be displayed. At that point, the student who was named usually engaged in the appropriate behavior. At times, a group contingency was implemented (a time-out procedure where everyone stopped what they were doing to put their heads on their desks in silence). At other times, a different type of group contingency was implemented: the entire class had time deducted from recess period. Appropriate behavior was often recognized by individual and group praise or rewards such as bubble gum and getting to be first in line.

During the token economy (the intervention phase), the participating student immediately earned a check mark if, at the end of each minute, appropriate behavior occurred instead of the specified targeted behaviors. Three check marks could be earned per period for the absence of all three target behaviors. At the end of the session, the check marks were counted and divided by two. The result was the number of minutes available to use back-up rewards (consisting of preferred activities such as math worksheets, computer time, reading instruction, leisure reading, and playing academic games). The total possible time available from each session to engage in the preferred activities was 10 minutes.

Higgins et. al (2001) applied a multiple baseline design to show a functional relationship between the implementation of the token economy and decreased rates of talk-outs, out-of-seat behavior, and poor seat posture. Regardless of the rate of inappropriate behavior during baseline, the effectiveness of the token program was apparent in the low rates of target behaviors during the token economy phase.

Effective Behavior Support (EBS) Model

The Effective Behavior Support Model (EBS) was created with the assistance of consultants from the University of Oregon and the Oregon Research Institute. School systems that utilize the EBS approach are provided with information about what practices had proven effective elsewhere and with ongoing data about behaviors occurring at their school. The school then makes all decisions about what features of the discipline approach are to be used. The EBS approach was designed to help schools improve the clarity of its rules and increase active teaching of behavior expectations, positive reinforcement for appropriate social behavior, consistent consequences for rule violations, and ongoing monitoring of data for continuous improvement (Metzler, Rusby, Sprague, 2001).

Metzler et. al. (2001) studied participants in the 6th, 7th, and 8th grade at three schools in two Oregon communities. 92% of the students were Caucasian, 5% Hispanic, 2% Native American, 1% Asian, and 1% African-American. In the comparison community, participants were 6th graders at the intermediate school (grades 4-6) and all 7th and 8th graders at the middle school. These schools were predominately Caucasian (88%), with 5% Native American, 4% Hispanic, 2% Asian, and 1% African-American.

Prior to the onset of the EBS intervention, neither school had any school-wide behavior support program in place. In both communities, when a student broke a school rule, s/he was given a discipline referral, his/her parent(s) and homeroom teacher were notified, and in some cases, the in-school team discussed the problem to generate solutions. For repeated and more serious problems, students were referred to a school counselor or the school psychologist.

The development of the intervention plan occurred during monthly meetings. In the first three two-hour meetings, the team was trained in the EBS model. The training covered the development of problem behavior, school-wide behavior management principles, and using discipline referral data to make intervention-planning decisions. Subsequently, the meetings became 1.5 to 2-hour work sessions, during which the team developed goals for target behaviors, defined the rules and expectations for the school, defined the reward systems, selected and developed the evaluation assessment tools, developed the lessons for teaching the behavioral expectations to the students, and worked out the logistics of implementing the lessons. Two half-day planning sessions also occurred during the summer. Additionally, students received "Top Dawg" tickets for positive behavior which were entered into weekly prize drawings. All students at the school received instruction in conflict management (4-5 sessions), and all students attended an assembly where they learned five guidelines for success. Students who displayed repeated behavior difficulties were referred to the counselor who developed behavior contracts and taught friendship skills.

At the middle school (7th and 8th grades), a token economy in the form of a student checkbook system was implemented. Students received T.N.T. (Teachers Noticing Talent) tickets for positive behaviors that were entered into their checkbook as a deposit. Students also received deposits into their checkbooks for good grades, test scores, organized binders, good attendance, and other special recognitions. Funds were withdrawn from students' checkbooks for bills (e.g., rent, water, food, newspaper, etc.) and for fines (e.g., overdue books, messy binders, etc.). The checkbook funds could be used for purchases at the student store or auctions at school assemblies.

Metzler et al. (2001) used a quasi experimental group design in one community to compare results with another community (control group). Assessments of school behavior management practices, student behavior, and student reports of school climate were obtained in both communities repeatedly over a period of two or more academic years. After a baseline period of one month (for student surveys) to one year (for monthly discipline referral data), the intervention was introduced into the middle school in one community but not in the second community. The first year of intervention implementation reflected intense involvement of research staff in the consultative process. The second year of intervention, called the maintenance year, reflected less involvement from research staff and more independent activity on the part of school staff.

Assessments continued for two years. Evidence regarding the effects of the intervention was provided by comparing differences in baseline and post-intervention data in the school receiving the intervention. They examined whether the changes occurred in the schools in the comparison community. The discipline referral data were analyzed to determine whether the level of referrals decreased significantly from the 1996-97 (baseline year) to the 1997-98 and 1998-99 school years (post-intervention). For both communities, the average proportion of students during the 1996-97 baseline was 46.3% for 6th graders and 50.5% for 7th graders; the average proportion for the 1997-98 intervention year was 30% for 6th graders and 34.7% for 7th graders. These figures reflect a 35.2% decrease for 6th graders and a 31.3% decrease for 7th graders. In the 1998-99 maintenance year, the decreasing trends continued for 7th and 8th graders, with the mean dropping to 27.8% for 7th graders and 26.1% for 8th graders. These figures reflect 19.9% and 32.5% reductions (respectively) from the previous year, and for the 7th graders, a 45% decrease from the baseline phase. Comparatively fewer changes were seen in the maintenance year for 6th graders, a mean proportion of 31.3% (Metzler et al., 2001).

Functional Assessment of Behavior (FAB)

According to Lewis and Sugai (1999), functional behavioral assessment refers to the gathering of information to ascertain the problem behavior; conditions under which the problem behavior is observed and is not observed; the function the problem behavior serves for the student (what seems to be maintaining the occurrence of the behavior); and data collection from multiple sources to confirm the function. Thus, the basis of the FAB approach is to identify and address the function of problem behavior through a process that involves collecting empirical data. The philosophical principles include:

1. *Problem behavior* usually serves a purpose for the person displaying it and is often very predictable and effective for the person displaying the behavior to achieve a desired outcome. These purposes are called functions (i.e., gaining attention, avoiding work, or escaping boredom).
2. The goal of intervention is education, not simply behavior reduction. The main goal of the intervention should focus on teaching the individual new ways of influencing other people so that the problem behaviors are no longer necessary.
3. Problem behaviors generally occur in social contexts. Thereby, intervention involves changing social systems, not just individual students or teachers or parents (Smith & Sugai, 2000).

Smith and Sugai (2000) studied a 13-year-old seventh grader receiving special education services in a self-contained program. He exhibited behaviors including defiance, inappropriate comments to peers, and several physical disruptions, including physical assaults on peers. The student was identified through academic and psychological testing as having normal intelligence and no specific learning disability. He attended two general education elective classes (band and computers) outside of his self-contained program. Additional participation in general education classes was dependent on his successful advancement within the self-contained classroom's token economy system. Prior to the initiation of the study a class-wide token economy system and twice-a-week counseling sessions were used to enhance the student's social skills. During the 4 months preceding the study, the student was referred to the office 15 times for a variety of rule infractions, including talking out, verbal defiance, and other disruptions.

Academic courses in the self-contained class were 72 minutes in length and scheduled for every other day. A teacher and at least one other adult assistant were in the classroom during all class times. Data were collected in language arts and social studies periods. Individual student seats faced the teacher's desk and blackboard. Approximately 10 other students with EBD attended each class.

Agreements for the student to participate in the research were obtained from the student and his legal guardians. Self-management training was initiated with the student. Specifically, three 30-minute training sessions with the student were conducted which introduced strategies for self-monitoring behaviors

and for self-recruiting adult attention. Specific definitions of all behaviors were reviewed; role-plays were conducted; and self-management cards were distributed to the student.

Smith and Sugai (2000) used an ABAB design to evaluate the effect of the functional assessment-based self-management strategy on percentage of intervals of on-task and talk-out behaviors. During baseline, no changes to the ordinary class procedures or classroom arrangement were made. The teacher maintained management strategies that were used prior to initiation of the intervention (specifically, teacher use of time-out procedures for inappropriate behavior, as well as student access to computer time if work was completed and the student's behavior was deemed acceptable by the teacher). During the second baseline, the student was not given a self-management card and was told to work hard in class without his self-management card.

During baseline, the student's average on-task percentage across four sessions was 30% (with a range of 27% to 37%) across the 20-minute sessions. Data points were relatively stable. On average, the student talked out during 26% of the intervals with a range between 12% and 43%. The student's average "other off-task" was 44% with a range between 29% and 61%. The student completed 42% of his assigned tasks with a range between 25% and 53%.

During intervention, the student's average "on-task" percentage rose and remained stable. He averaged 90% of intervals "on-task" for this phase, with little variability (range = 76% to 95%). The average talk-out level decreased slightly to 12% of the intervals (with a range of 5% to 21%) and other off-task dropped substantially to less than 1% of the intervals. The student completed 80% of his assigned tasks with a range of 66% and 100% (Smith & Sugai, 2000).

Project PREPARE (Proactive, Responsive, Empirical, and Proactive Alternatives in Special Education)

Colvin, Kameenui, and Sugai (1993) developed Project PREPARE, a prevention-focused, instructional-based behavior management model that focuses on staff development of pre-service teachers to develop a framework or philosophy with consistent discipline features. They studied the impact of Project PREPARE at two middle schools (one control and one experimental sites). The schools were comparable in their total school enrollment, 442 and 449 and other demographic, physical, and operating features.

.Future Questions to Be Studied

A systematic study of 5 treatments will undertaken using an alternating treatment design. The PAR Model will integrate the introduction and application of validated best practices such as strategy instruction, universal school-wide management system, and positive behavioral supports on measures of the following target behaviors: Reduction of a) failure to respond to teacher requests, b) talking out, c) being out of seat, d) being verbally aggressive, and e) being physically aggressive.

The effects of a Token Economy will be evaluated on the basis of changes in the following target behaviors: reduction of a) failure to respond to teacher requests, b) talking out, c) being out of seat, d) being verbally aggressive, and e) being physically aggressive. The Token Economy will be implemented in the following way: behaviors were allotted points utilizing a checklist. At the end of the day, when students met the criteria, they could select a reinforcer based on choices they had expressed in a written inventory of preferred activities.

EBS will be evaluated on the basis of reduction of a) failure to respond to teacher requests, b) talking out, c) being out of seat, d) being verbally aggressive, and e) being physically aggressive. EBS will involve the implementation of a peer mediated self-monitoring procedure, treatment fidelity checklists, tailored to each PBS plan, were designed to monitor each peer partner's correct use of skills. The

individualized checklist listed each skill the peer partner was expected to use with a place to mark whether or not the skill was successfully implemented.

Project PREPARE is a set of implementation strategies that include staff incentives and parental involvement through communication. The impact of PREPARE will be measured by reduction of a) failure to respond to teacher requests, b) talking out, c) being out of seat, d) being verbally aggressive, and e) being physically aggressive.

Functional Assessment of Behavior (FAB) will be evaluated based on reduction of a) failure to respond to teacher requests, b) talking out, c) being out of seat, c) being verbally aggressive, and e) being physically aggressive. The FAB process involves systematic instruction of appropriate methods to define, measure, and modify behaviors based on an analysis of the antecedents and consequences, the fast and slow triggers, and the hunches as to the function of the behavior being demonstrated. FAB assumes that students are attempting communication and often involves visually based strategies and tactically based programs.

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The Effects of Sports Participation on Student Self-Esteem

Daisy Fernández

Self-esteem is a fundamental component of mental health. The term is defined as a person's subjective appraisal of himself or herself as intrinsically positive or negative to some degree (Hogg & Cooper, 2003). In other words, it is the generalized feeling about one's self that is more or less positive. As we build an image of ourselves through our experiences in the world, this critical aspect of our personality develops and changes.

Despite its temporary fluctuations, it is certain that those with high self-esteem have a more optimistic view of life: they appreciate who they are and consider themselves to have many good attributes. Those with poor self-esteem, however, hold a negative view of themselves that comes at a tremendous cost. Low self-esteem is often related to anxiety and depression as well as academic underachievement.

As advocates for children and adolescents, educators must strive to improve the self-esteem of students. One interesting way of boosting student self-esteem is to implement a school-based sports program. By enhancing social relationships and increasing physical fitness, such a program will allow students to grow more confident and self-loving.

The following articles examine the effects of fitness training and sports participation on aspects of mental health and human behavior. The articles were found using the library databases of Florida International University. The databases that produced the most relevant records were PsycINFO and ERIC via Cambridge Scientific Abstracts. The articles were located using keywords such as 'self esteem,' 'sports,' 'athletes,' 'exercise,' and 'fitness.' The results were narrowed down immensely when the search word 'single subject' was added. Since a small number of relevant results were found, it is clear that more research is needed to investigate the effects of sports and exercise on self-esteem and other aspects of mental health.

Literature Review

In 2001, McKenney and Dattilo studied the effects of a sports-related intervention on the prosocial behavior and antisocial behavior of adolescents with disruptive behavior disorders. The authors hypothesized that adolescents who attend a prosocial behaviors intervention during basketball instruction will demonstrate more prosocial behaviors (such as helping) and less antisocial behavior (such as physical aggression). The authors used a multiple baseline design to test their hypotheses.

The subjects of the study were five adolescent males between the ages of 13 and 17. All participants demonstrated behavioral problems and were "receiving psychiatric treatment services at a long-term treatment facility in the southeastern United States" (McKenney & Dattilo, 2001, p.126). The study took place within the psychiatric treatment center for a five-week period.

The intervention, which was implemented by one of the authors, consisted of three units of instruction on prosocial behaviors. Each instructional unit was characterized by a discussion on a prosocial behavior, a demonstration of the behavior, and a role-playing exercise. To embed the

lesson within a sports context, the interventionist would ask questions such as "What do you do in situations where you have to help another person while playing basketball?" (McKenney & Dattilo, 2001, p. 126). The intervention occurred three times a week in 30-minute sessions.

The dependent variables that were measured in the study included prosocial behaviors, such as encouraging, helping and conflict resolving, and the antisocial behaviors of physical and verbal aggression. Each of these variables was clearly defined in the study. Data was collected while the participants were engaged in 20-minute basketball scrimmages. During the process of data collection, a second observer was used to check the accuracy of the measures. The study demonstrated reliability, as inter-observer agreement ranged from 83% to 100%.

The data from McKenney and Dattilo's study reveal that the effects of the intervention were mixed. When the treatment was initiated, the frequency of prosocial behaviors increased. However, the intervention appeared to lose its power throughout the course of the study. The initial effects of the intervention were not observed during follow-up. The authors also report that the intervention failed to impact antisocial behavior. Because the effects of the intervention were minimal, it is clear that more in-depth research is needed in this area.

Despite the limited success of the study's intervention, McKenney and Dattilo's work represents a strong example of single-subject research. The study demonstrated high levels of validity and reliability. It also measured behaviors that are observable and socially valid, since adolescents need to learn to show acceptable interactions for success in life.

Van de Vliet et al. (2003) investigated the additional effects of fitness training on the depressed mood of psychiatric patients receiving multifaceted treatment. Twenty-nine individuals with a diagnosis of mood disorder participated in this study. The subjects ranged in age from 20 to 65 with 10 of them being males and 19 females. The study, which utilized an AB design, took place within a psychiatric treatment facility Belgium.

The participants received a comprehensive multimodal form of treatment that consisted of medication, psychiatric consultation, group psychotherapy, social skills training, occupational therapy, and leisure time. To assess the impact of fitness training, psychomotor therapy was added to the treatment program. According to the authors, "psychomotor therapy is a kind of exercise training that attempts to act systematically on body perception and behavior through movement situations" (Van de Vliet et al., 2003, p. 1346). This exercise intervention took place three times a week in 45-minute training sessions. The authors provide no details on the specific number of days in which the intervention was implemented. The program included aerobic and anaerobic exercises, such as cycling, treadmill walking, and running.

To collect data, participants filled out daily questionnaires to report on their feelings of depression. The authors ensured that the participants understood how to complete the scales that were provided. To control for the immediate effects of other therapy, subjects completed these diary sheets over two hours after the day's last therapy session. Statistical analysis was used to interpret the data collected through the self-report measures.

According to Van de Vliet et al. (2003), "the fitness training intervention is accompanied by a reduction in depressed feelings in only five of the 29 cases" (p. 1349). Four of the participants actually experienced an increase in depression. As the limited effects of the intervention indicate, no significant relationship was found between the fitness program and feelings of depression.

Perhaps additive and carryover effects can explain the results found in Van de Vliet et al.'s study, since a multidisciplinary intervention with multiple treatment conditions was employed. It is possible that the various subcomponents of the treatment program, such as medication and psychotherapy, influenced one another. Because a variety of treatment techniques were instated simultaneously, it is also difficult for the effects of fitness training alone to be assessed. In order to control for these issues, the authors could have inserted rest periods between treatments or considered counterbalancing.

Mahendra and Akrin (2003) examined the effects of four years of exercise, language, and social interventions on Alzheimer discourse. The authors employed a longitudinal AB design to assess the impact of a comprehensive-linguistic intervention program for Alzheimer's disease. The participants included three women and one man, all over 59. At the start of the program, a variety of assessments were conducted to collect baseline data, such as the Mini-Mental State Exam and the Arizona battery for Communication Disorders of Dementia. The study participants were also evaluated throughout the course of the intervention using numerous cognitive-linguistic assessments. These instruments measured proverb interpretation and picture description. Interscorer agreement of each measure ranged from 75% to 80%. College students, who received three undergraduate credits for their participation in the study, implemented the multimodal intervention. Treatment consisted of "one 2-hour exercise plus language stimulation session, and one 1.5 hour of volunteer service per week" (Mahendra & Arkin, 2003, p. 401). The physical fitness component of the intervention specifically included a treadmill and stationary bicycle workout as well as strength, balance, and flexibility training.

The results of the study suggest that all four participants experienced improved performance on proverb interpretation at year 4. Performance on the picture description, however, exercise showed a great deal of variability and fluctuation. The participants performed best in year 3, but had lower scores in year 4. Overall, the data suggests that multifaceted treatment has a positive effect on the language performance of individuals with Alzheimer's disease.

Like the study by Van de Vliet et al. (2003), Mahendra and Akrin's research is limited by its multimodal approach. The various components of this comprehensive intervention need to be studied independently, so that the individual effects of each component can be assessed. This study is also missing important information about its exact setting and treatment integrity. Adding these key details would have made it a greater example of single-subject research.

In the world of sports and exercise, kinesthetic imagery is an innovative method for increasing the confidence of athletes. This specific type of imagery requires "an approximation of the real life phenomenology such that a person actually experiences those sensations which might be expected in the actual situation" (Callow & Waters, 2005, p. 444). Unlike visual imagery, it involves the sensations of how it feels to perform an action, including the force and effort required in movement. Callow and Waters (2005) studied this phenomenon within the context of

horseracing. A multiple baseline design examined the efficacy of a kinesthetic imagery intervention on the sport confidence of professional jockeys.

Three professional flat-race jockeys volunteered to participate in this study. All subjects were males with an average age of 29. To study the sport confidence and imagery ability of the participants, a number of instruments were used. For example, the Movement Imagery Questionnaire-Revised and the State Sport Confidence Inventory were used to measure the variables of interest at baseline and post-intervention phases. According to Callow and Waters (2005), the two instruments demonstrate adequate construct validity as well as strong reliability of 95%.

The intervention, which was implemented by the authors, took place at horse-stables or in the participant's home in the Netherlands. It occurred over a 3-week period for a total of 6 sessions. During the intervention phase, participants were given kinesthetic imagery scripts. Participants then practiced these scripts for five minutes every other day in a quiet setting. Each participant kept a journal of his imagery practices, while data was collected on their sport performance. No interobserver agreement was mentioned in the study, which limits its reliability.

The results of the study indicate that imagery ability and usage increased as a result of the intervention. In addition, two of the three participants experienced remarkable increases in sport confidence from baseline to postintervention phase. Despite the participants' increased confidence, data on subsequent performance revealed no significant changes or improvements. Overall, this study provides support for the use of kinesthetic imagery within a sports context, at least for influencing self reports of confidence.

The design and methods of the study provide a satisfactory example of single subject research. However, whether or not the results are generalizable to other populations and settings is questionable. Since only male jockeys were studied, it is difficult to extend these findings onto female athletes or other sports.

In 2005, Peck, Kehle, Bray, and Theodore examined the efficacy of yoga as an intervention for children with attention problems. The authors utilized a multiple baseline design with a comparison group to determine of the effectiveness of yoga for improving the on-task behavior of students with attention difficulties.

The subjects of the study were ten elementary school students between the ages of 6 and 10. The participants were not diagnosed with ADHD, but displayed attention problems during two observations conducted by the school psychologist. It is important to note that 7 of the 10 participants were female. The study took place in a school in the northeastern United States, which provides evidence for its applicability to the classroom setting.

The dependent variable of the study was time on task, which was clearly defined as "the percentage of intervals observed that the students were orientating toward the teacher or task, and performing the requested classroom assignments" (Peck, Kehle, Bray, & Theodore, 2005, p. 418). This variable was measured at baseline, intervention, and follow-up phases using observations. An interobserver agreement of 91% was achieved during data collection, which demonstrates the study's reliability.

The intervention consisted of a "Yoga Fitness for Kids" videotape that "depicted an adult instructor and three children engaged in deep breathing, physical postures, and relaxation exercises" (Peck, Kehle, Bray, & Theodore, 2005, p. 419). The children participated in this activity twice a week for 30 minutes during a 3-week period. The authors of the study provided evidence for treatment integrity through the use of a checklist protocol.

The results of the study indicate that yoga was effective in increasing time on task. During the intervention phase, the participants demonstrated more time on task than their peers in the control group. However, time on task decreased at follow-up. Despite minimal maintenance of the desired behavior at follow-up, this study is an excellent example of single-subject research. Overall, the yoga intervention makes an outstanding contribution to the literature on exercise and fitness as meaningful interventions for youth in terms of increasing time on task.

Research Question

The present study aims to investigate the effects of sports participation on the self-esteem of adolescents. The question is: What are the effects of a school-based beginner's sports program on the self-esteem of middle school students identified as having low self-esteem?

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Behavior Modification Strategies for Children with Disabilities Who Display Aggression

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Research for this literature review was obtained from Education Information Research Center through the following keyword searches: behavior research, behavior modifications for students with disabilities and behavior interventions disabilities.

Aggressive behavior in the school setting can be very disruptive and counter productive to learning for the regular education student. It is even more detrimental to the student with special needs. Although the majority of violent acts in schools are not committed by students with IEPs, this issue is still addressed by the Individuals with Disabilities Education Act (IDEA). In fact IDEA requires the multidisciplinary team responsible for constructing the student's IEP to consider Positive Behavior Support to address behavior problems that the child may have (*Helping students*, 1998). Some educators have found that traditional compliance based discipline has limited effect on students who have significant problems getting along with other people. Therefore, educators are seeking ways to move beyond traditional punishment and provide students with opportunities to learn self-discipline.

Researchers have begun to study and advocate for proactive, broader, positive school-wide discipline systems that include behavioral support. Positive Behavior Support (PBS) has been shown to be successful with individuals with challenging behavior and is very effective in reducing problem behavior. This approach helps shed some light on what the child receives from acting out. What is the function or the purpose of the aggressive behavior? PBS seeks to answer that question not by looking at the child as the sole problem but by looking at the setting, the work being done, and other factors that may impact the student's acting out behavior. PBS also helps practitioners and families understand the individual with the challenging behavior. Ann Turnbull, a researcher at the University of Kansas, recommends four research-based actions to support positive behaviors in children with significant disabilities. First, services and programs should be responsive to the preferences, strengths and needs of individuals with challenging behavior. Students may also benefit from instruction in social skills, self-determination skills, goal- setting and independent learning skills. Second, if the challenging behavior is being influenced by something in the individual's environment, it is important to organize the environment for success. Third, Individuals need to be taught alternative, appropriate responses that serve the same purpose as the challenging behavior. Fourth, positive behaviors should be reinforced and acknowledged consistently (as cited in *Helping students*, 1998). Positive behavior support (PBS) is a long-term approach to reducing inappropriate behavior, teaching more appropriate behavior and providing support necessary for success.

Horner and Sugai (as cited in *Helping students*, 1998) , researchers at the OSEP funded center for Positive Behavioral Interventions and Support in the University of Oregon, recommend an approach that considers support from the following perspectives: school-wide support, specific setting support, classroom support and individual support. Their goal is to increase the capacity of schools, families and communities to support and educate children with specific problem behaviors. When Principal Susan Taylor-Greene implemented PBS approach at Fern Ridge middle school in Elmira, Oregon, it resulted in a 42% decrease in office referrals in one year's time. That is a testament to its effectiveness in an actual school setting.

Students who are in special education classes who have difficulty with managing anger and developing alternatives to aggressive behavior are most at risk of school failure (Smith, 1992). Also special education students in regular classrooms are expected to display competence in social interactions. Competence is determined by the student's ability to interact with others in a manner that conforms to standards of acceptable behavior. Students' possession as use of pro-social behaviors directly effects the student's ability to benefit from academic education. Negative and inappropriate social and emotional responses to situations may interrupt the learning process for the student as well as the learning process for other students. Such inappropriate responses may interfere with task completion and mastery of academic subject matter. The meta-cognitive model engages a relationship between internal cognitive events and overt behavior change by teaching strategies to guide task performance and reduce inappropriate behavior. This approach has been used with a variety of clinical settings between therapist and patient. Due to its overwhelming success in clinical settings researchers wanted to study its effects in the special education arena. This is necessary because researchers feel that education is in great need of cognitive behavioral techniques that can be used to teach students to control anger and aggression. Because of this fact, Smith (1992) is a researcher at the University of Florida who investigated the effectiveness of the meta-cognitive strategy in reducing anger behavior and or aggressive acts in elementary and secondary aged students who are placed in special education classes.

Participants included three elementary, three middle, and three high school students who had been placed in special education or self contained classes. These students were chosen because they displayed frequent aggressive behavior and an inability to control anger. The training and data collection took place in a resource room for students with varying exceptionalities. The training was administered to each student individually. The goal of the metacognitive strategy is to help the students control their own behavior through problem solving techniques. The results of the study reflected that during meta-cognitive strategy instruction intervention, all 3 students showed a decrease in the target behavior. Also during the maintenance phase the students showed a decrease in the target behaviors compared to the baseline phase. Overall, the students used the metacognitive strategy to reduce anger acts and aggressive behavior. Therefore, Smith (1992) found that this strategy was a promising tool for special education teachers and is worthy of more investigation. This study is behavioral because the students' aggressive behavior is observable, it is applied because it takes place in the classroom, it is not reliable because there was no evidence of inter-observer agreement, it is analytic because an ABAC design was used to conduct the study, there is evidence that the study is generalizable over time because at the follow up phase the students showed a decrease in the target behavior, it is empirically valid because it shows a relationship between treatment and behavior, and it is socially valid because a child's behavior in and out of school is important socially.

Bruno, England, and Chamblis (2002) conducted a study with the purpose of applying theoretical frameworks of emotional and social intelligence to the development and implementation of an education program for elementary school children. This research is relevant to helping children with aggression issues because it helps them to better understand what triggers their anger and learn how to manage it in an effective way. The key component in strengthening emotional intelligence involves the correct identification and understanding of internal physiologically anchored emotional states and the situations that elicit them (Bruno et al., 2002). The key component in strengthening social intelligence involves the understanding of emotions and

therefore, emotional intelligence and social intelligence are interrelated. The study included 53 students from two third grade classrooms in a northeastern, suburban elementary school in the United States. Twenty-nine of the fifty-three students received the intervention program. Eighty-three percent of the students were classified as regular education, seven percent were classified as special education, and ten percent were classified as gifted. The control classroom was made up of 24 students. Ninety-two percent of the students were classified as regular education and 8 percent were classified as special education. Two teachers volunteered to participate in the study and they were randomly assigned to the experimental and control group. The Emotions Situations Questionnaire created by Schwartz and Weinberger (1980) and modified by Wintre et al. (1990) was used to assess emotional understanding and ability to identify emotions. The Situation Analysis of Understanding and Expressing Emotions were developed to measure the self-management of emotional experiences and was created by the trainer.

Fifteen anger management strategies were given to the experimental group as a pre and post-assessment. A teacher rating scale was used to provide supplementary evidence of the program's effectiveness. The results of the Emotions Situations Questionnaire reflected a statistically significant change in the ability to identify anger in those who participated in the experimental condition. A significant difference was found in overall emotion identification with females scoring higher than males on both the pre-test and post-test. Females were also able to identify correctly the following individual emotions more than males: sad, loving, and scared. The results of the Situational Analysis of Understanding and Expressing Emotions reflected summary scores indicating responses to hypothetical situations for each participant, prosocial responses and antisocial responses, and a significant decrease in the selection of prosocial responses was found with no significant gender differences in either pre or post-test. The results of the Anger Management Strategies pre-test reflected that students endorsed the following strategies at rates exceeding chance: get back at the person, call the person names, and use the silent treatment, and unlikely to talk with the person who made them angry. The post-test reflected students were significantly likely to use the following strategies: get the person back and call them names. Yet, they were not likely to use the following strategies: insult the person, use the silent treatment or talk with the person who made them angry. The Teacher Rating Scale failed to detect a significant difference on ratings of either social skills or problem behaviors' when the pre and post-test scores were compared.

These results offer partial support for the hypothesis that participation in the program would enhance students' ability to identify emotional states accurately. Students were better able to identify anger following their involvement in the program. It is more likely that this increase can be attributed to their exposure to the anger management unit. The results failed to support the hypothesis that participation in the program would increase prosocial responding and reduce antisocial responding.

This study is behavioral because the student's prosocial and antisocial behavior are observable. The study is applied because it takes place in the regular classroom. The study is not reliable because there was no evidence of inter-observer agreement on the rating scales and pre/post tests. It is analytic because a pre-post design was used to conduct the study which shows that a change in behavior did occur. But because no attempt was made to verify that the intervention was responsible, the functional relationship is questionable. There is no evidence that the study is generalizable as it was not conducted across settings or over time. It is not empirically

valid because it only shows that some changes occurred between treatment (learning the 15 anger management strategies) and behavior (outbursts). It is socially valid because a child's behavior in and out of school is important. Also the treatment itself (instruction in anger management strategies) is socially acceptable.

Aggressive behavior not only appears in elementary through high school aged children. It is being seen in pre-school aged children, as well. The Technical Assistance Project is devoted to developing and evaluating a model of in-service and transdisciplinary technical assistance to prevent severe challenging behavior in pre-school children (Abraham & Wald, 1993). The teams meet weekly to discuss referrals and design specific interventions. They provide consultation and assistance to educators in the treatment and prevention of severe challenging behavior in pre-school children. They work with parents and teachers to design proactive user friendly and effective interventions to help assure successful inclusive opportunities for children who exhibit challenging behaviors through training, feedback, consultation and ongoing evaluation. Wilder, Chen, Atwell, Pritchard, and Weinstein (2006) examined the influence of termination of pre-change activities and initiation of post-change activities on tantrums of two pre-school children. Both children had age-appropriate language skills and neither child had been diagnosed with a disability. For one child, tantrums were maintained by access to certain pre-transition activities. For the other, tantrums were maintained by the avoidance of certain task associations.

Sessions were conducted in a therapy room with a one-way mirror at a clinic associated with a university. The therapist was one of the children's parents. A trained observer used paper and pencil to record the target behavior during the functional analysis and treatment evaluation. A second observer also collected data. Two paired stimulus preference assessments were conducted where each participant had to identify a highly preferred activity and a highly preferred edible item. The parents of the participants were asked to choose an activity that was not preferred by the children.

Children were exposed to different transitions to identify which transitions caused tantrums. Four stimulus conditions were used: a) preferred activities, b) non preferred activities, c) preferred edible item, and d) interaction. Each was used as the pre and post transition activity which resulted in 8 kinds of trials. Two interventions were evaluated with each child using reversal designs (ABAB design) advance notice of a transition and differential reinforcement of other behavior with extinction. The results suggest that brief functional analysis methods can be used to identify the maintaining variables for behavior associated transitions exhibited by typically developing pre-school children. For one child, tantrums occurred 100% of baseline performance levels and advance notice trials. During DRO plus extinction, tantrums gradually decreased. For the other child, tantrums occurred during most baseline conditions and all advance notice trials. During DRO plus extinction, tantrums did not occur. Wilder et al. (2006) believe that this provides a model for outpatient assessment and treatment of tantrums associated with transitions.

This study is behavioral because the participants' tantrums are observable. It is not applied because it was conducted in a therapy room. It was reliable because there was evidence of inter-observer agreement. It is analytic because ABAB design was used to assess the impact of interventions. There was no evidence that the study was generalizable either to other settings or across time. It is empirically valid because a functional relationship was shown between the DRO with extinction and frequency of tantrums: this means that the student's tantrum behavior

decreased with the inappropriate behavior was ignored AND the appropriate behavior (differential reinforcement of any other behavior) was reinforced. Because so many parents and teachers attempt to use ignoring (extinction), this study is especially important in showing that it takes both planned ignoring and conscious reinforcement of appropriate behavior.

Researchers at the University of North Carolina-Charlotte are studying a school-wide approach to behavioral management called Unified Discipline. The objectives of this approach are the unified attitudes of teachers and personnel that instruction can improve behavior, unified expectations of fair and consistent behavioral instruction, unified consequences when rules are broken, unified team roles for all school personnel. In the schools where this approach is being implemented, teachers report positive attitudes towards its use. The evidence suggests reductions in the nature and extent of referrals to the office for aggressive behavior.

Effective Behavioral Support (EBS) is another approach advocated by a researcher from the University of Missouri. It is designed to help students with behavior problems to experience more success in the educational environment because a support system is in place. EBS is beneficial to students who are not disabled but who show challenging behavior because they can receive support through individual teacher interventions as well as the school-wide discipline structure. EBS has a focus on prevention. In other words, the EBS approach refers to a system of school-wide processes and individualized instruction designed to prevent and decrease problem behavior and to maintain appropriate behavior. This model does not have a prescribed set of practices. It is a team based process designed to address the individual needs of schools (School-wide behavioral, 1997).

Unfortunately, many children with special needs who have difficulty in school choose to drop out of school altogether. Sinclair (1996) recommends several strategies to help prevent a large number of students from dropping out of school. She suggests that school personnel be persistent in being concerned about children's needs. They can not allow a child to give up. There should be a person available to the students throughout the school year who knows the students' needs. The same message should be sent from all school personnel that school is extremely important and necessary for success. Students' activities should be monitored as closely as possible to eliminate risk behaviors. Someone should be monitoring what the at-risk student is doing in school. School personnel should develop relationships with the students to provide a support system for the children.

The foundation of the relationship should be based on the premise that an adult associated with the school cares about the students' educational experience. Also, the adult both notices and acknowledges the young person's educational progress. Therefore, students' absences should not pass without comment nor should student's improvements go unrecognized. The students should feel that they are affiliated with their school and that they are an important part of the school community. This can be accomplished by simply attending the school or being involved in extra-curricular activities.

Perhaps the most crucial element of successful intervention and prevention programs is explicit teaching of problem-solving skills. When students can recognize risk factors and seek support for staying in school, they can learn strategies to help them cope with the challenges they face in their daily lives in school and in the community. This will help students define and resolve

their problems, think through solutions to them rather than ignoring them or doing the first thing that comes into their minds. Problem-solving skills will also help students to anticipate issues, and think them through before they arise. These interrelated intervention elements form an effective approach to helping youth stay in school (Sinclair, 1996).

Research Question

Further investigation is needed to determine the effectiveness of each strategy presented as well as new more innovative strategies that exist. What are the effects of the Metacognitive Strategy versus the Positive Behavior Support on students' aggressive behavior?

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Implementing Encompassing Academic Accommodations to Facilitate Generalization of Pro-social Behaviors of Students with Behavioral Disorders

Liana Gonzalez

Educational research is saturated with articles and studies that address the topic of educating children and youths with Emotional and Behavioral Disorders (EBD). A vast amount of the current literature on this topic segments this issue into behavioral interventions, academic accommodations, instructional decisions, and social skills instruction. Perhaps as a ramification of this segmenting, where the functional relationship and reciprocity between these components fails to be collectively described and analyzed, is that children and youth with EBD continue to have dismal educational outcomes. Specifically, their grade point average is the lowest, their drop-out rate is over 40%, and nearly 40% are likely to have a criminal record shortly after leaving school (Denny, Epstein, & Rose, 1992).

While it is understood from a research based perspective that educating children with EBD is a broad topic, and that in order to conduct an effective study the parameters need to be 'narrowed', in some ways this need for efficiency fails to provide a realistic, multi-faceted perspective, an encompassing intervention where all stake holders are provided with the bigger picture. A canvas where all four, instructional decisions, academic interventions, social skills instruction, and modifications or adaptations that result in generalization of pro-social behaviors, interact with each other. Furthermore, how this interaction, via encompassing academic accommodations where all of the above components are actively practiced, impacts the current educational milieu for children and youth with EBD.

This literature provides a comprehensive critique of current educational practices and interventions that address the successful education of children and youth with EBD. The emphasis is on the reciprocity between instructional decisions, academic interventions, social skills instruction, and modifications or adaptations. Furthermore, in what ways might all these components be effectively juxtaposed as academic accommodations and reliably measured?

The goal was to formulate a research question with applied and socially valid educational implications that addressed the topic of educating children and youths with EBD. All studies included in this review effectively applied interventions to target a specific aspect of the overall repertoire of behaviors that impact the successful access to the general education curriculum of students with EBD. However, all of the articles were specifically designed to focus on the problem behaviors in isolation.

In educating a child or youth, his/her entire behavioral repertoire and history of reinforcement come into play; therefore it can potentially become confusing and impractical to conduct research that adheres to a narrow scope. It is difficult to look at academic behaviors separate from social behaviors because in the educational milieu these are closely correlated. Furthermore, taking into account that the goal of educational research is obviously to improve educational practices, and that a student-centered approach is recommended in achieving best results, research then must be accessible to all pertinent stakeholders that impact the educational life of the student; the term accessible in this case, refers to practical understanding and application.

It is recommended that educational research objectively answer: What can we do better? This answer must be understood by researchers, teachers, parents and students. Unfortunately, the mechanics of studying behavior are both complex and varied, thus fostering the need on the part of the researcher to 'pick apart' subjects in a scientific manner that only the elite can realistically apply in a classroom setting. A holistic approach is missing; the answer seldom lies with one aspect of behavior, but rather many, because human beings are wonderfully diverse. In addition, there is a dire need for more quantitative studies assessing the education of students with EBD. As supported by findings that the number of experimental studies addressing this topic have declined over the years 1980-1999 (Clarke, Dunlap, & Stitche, 2002).

The following organizational criteria were developed to review the literature in a manner conducive towards creating a holistic view of the research. Articles were selected for the following topics: components of encompassing academic accommodations (such as instructional decisions, academic interventions, social skills instruction, and generalization to inclusive settings); components of effective single subject design; importance of the topic; and match between topic and methods. All studies in this review were located by using the Wilson Web research engine with the specification of peer reviewed articles and the key words: single subject design, emotional and behavioral disturbance, academic interventions, social skills instruction, self-evaluation techniques and inclusion.

Component 1: Instructional Decisions

Instructional decisions are to education what traffic lights are to traffic, they help avoid moving too quickly or too slowly, when working correctly avoid unnecessary problems, and have the potential to overall make the journey more efficient and enjoyable. Two of the studies addressed this topic, with students with EBD as the subjects.

Blankenship, Ayres, and Langone (2005) explored the topic of instructional decisions via a modified, multi-probe design across behaviors, with an emphasis on evaluating the effectiveness of computer based cognitive mapping in establishing instructional levels in independent reading comprehension. The subjects were three 15-year-old freshman, two males and one female, from an affluent suburban high school. The first dependent variable was the percentage of correct responses on chapter tests and the second dependent variable was the percentage of correct responses on chapter quizzes that students took each day after reading. The quizzes covered key concepts from the readings, some of which the student may not have had the opportunity to read, and thus functioned as a formative measure to determine student progress as he/she advanced toward criterion. The independent variable was the student's use and design of cognitive maps on the computer, at various instructional levels, while reading the text. Results depicted that the use of cognitive maps via the use of computers, significantly increased the students' performance on tasks related to reading comprehension. Furthermore, the students ultimately scored above 75% correct on all chapter tests.

This study is a good example of single subject design because it measured socially valid behaviors in a realistic setting, thus providing educators with a practical way to conduct research-based practice with a great potential for generalization. In addition, the IOA was 98% and there were no internal validity problems. This is a socially valid study particularly because reading

problems are at the forefront of referrals into special education; thus, it can be inferred that much of the general education curriculum relies on students being able to read and comprehend text independent of classroom instruction (Blankenship et al., 2005). Furthermore, it is well established that academic failure, particularly in reading, is a major predictor of larger failures across the school (Walker, Colvin, & Ramsey, 1995). If students with EBD are expected to generalize behaviors to less structured or inclusive settings, reading ability must be addressed via determining the instructional level without falling victim to the remediation trap, which on average has the tendency to create lower expectations.

Due to the plethora of manifestations of behaviors of EBD students, which often include those that hinder the ability to focus attention for extended periods of time, it is an excellent idea to use instructional technology to conduct activities that require extended amounts of time, such as cognitive mapping. In doing this the students can work at their own pace, while being stimulated by the graphics. The goal being to actively engage them in an activity that helps with reading comprehension, a necessary skill or behavior to be generalized. It is also socially valid because it used an accommodation or adaptation, via technology, to address the learning styles needs of students with EBD. All vital components of making research-based instructional decisions that can potentially result in the generalization of effective reading comprehension strategies. The simultaneous implementation of computer based instruction and cognitive mapping, can be another useful tool in improving the reading comprehension of students with EBD and ideally make it easier for them to generalize this behavior to inclusive settings (Blankenship et al., 2005).

Gickling and Rosenfield (1995) studied the effect of drill ratios on recall and on-task behavior of children with learning and attention difficulties. These drills focused on each student's instructional level, the rationale being that students presented with an appropriate level of challenge exhibit higher task completion, and on-task behavior (Gickling & Rosenfield, 1995). The subjects were five fourth-grade Caucasian students, three males and two females receiving special education services. The dependent variable was observed time on-task, when given specific site words at various instructional levels. This was measured using an interval recording method combined with a momentary time sampling schedule. The independent variable was the instructional level of the drills and their relation to amount of time students were on task.

Results indicated that the drills that took the most time to complete thus decreasing the amount of time the students were actively on-task, were those significantly below the students' instructional level. As further evidence of this phenomenon, Darch and Gersten (1985) found that the more time spent on a task that was below instructional level, the greater likelihood of off-task behavior. This study is a good example of single subject design because it addressed a socially valid behavior within the classroom milieu. In addition, the practice of drill ratios can be generalized into any academic subject. Furthermore, while the study lacked a multi-cultural, urban perspective, it did provide excellent internal and external validity measures. The topic of this article is socially valid because it addresses two very important educational issues affecting students with EBD, retaining academic information and exhibiting on-task behaviors for prolonged periods of time. Given that most academic tasks fall within two categories, gaining meaning from print and rehearsing tasks, it is important that these meet the student's instructional level (Gravois & Gickling, 2002); the second category rehearsing tasks, being related to instructional drills and linked to increasing on-task behaviors. To further validate this point, studies have consistently demonstrated that interspersing known, or easier items within an assignment increased student

preference for that assignment (Cates & Skinner, 2000), thus increasing the potential for on-task behavior. It is also socially valid because of the positive correlation between academics and pro-social behaviors necessary to succeed in most educational settings. A related line of research has consistently demonstrated a link between academic learning time (ALT), "proportion of instructional time allocated to content area during which students are actively and productively engaged in learning" (Getting & Seibert, 2002, p. 774), and academic outcomes (Gettinger & Stoiber, 1999). This validates the contention posed by the research question that, through encompassing academic interventions, pro-social behaviors can be effectively addressed.

Component 2: Academic Interventions

In educational settings where most activities are geared towards mastering a skill, academic interventions are implemented continuously. It is the accuracy or effectiveness of these interventions that potentially affects other social variables within the classroom. Specifically, learning is a change in behavior with ramifications to social behaviors. This link is established as a result of experiencing success when mastering a task, frustration from lack of success, or boredom from not being challenged. However, while educators focus on the social challenges of educating students with EBD, they often fail to recognize the underlying academic failures that precipitate problem behavior (Scott & Nelson, 1999).

Two studies focused on developing effective academic interventions with students with EBD as the subjects. Scott and Shearer-Lingo (2002) implemented a multiple baseline across subjects design to compare two different teacher-directed reading programs and reading fluency and rate of on-task behavior. The subjects were three seventh grade boys with EBD, in a self-contained middle school classroom. The independent variables were two reading programs, sequentially introduced. The main difference between the two programs was the delivery: the first program involved extensive direct teacher-student interaction, and the second did not. The dependent variables were the students' reading fluency (assessed by the students reading the passages offered by each reading program) and the rates of on-task behavior (measured implementing a partial-interval time sampling procedure). Results indicated that the program that maintained direct teacher-student interaction was more successful at both increasing reading fluency and maintaining a high rate of on-task behaviors.

This was a good example of single subject design because it was behavioral, applied, and reliable. However, generalization was questionable due to the study's implementation of specific reading programs which may not be available to other schools. This is a socially valid behavior to study due to the strong relationship between reading failure and general school failure. Reading instruction should be studied as an intervention for students with a history of academic and social failure in school (Scott & Shearer-Lingo, 2002). Students with EBD would greatly benefit from these types of interventions because academic underachievement is one of the key conditions of EBD. This is supported by the federal definition of the term which describes it as "an inability to learn that cannot be explained by intellectual, sensory, or health factors" (U.S Department of Education, 1998, p. 11-46). Logically, it would then be beneficial to provide effective academic interventions for this population such as the one depicted by the previously discussed study.

This study is useful with respect to the importance of implementing extensive interventions

via academic accommodations to increase the success of students with EBD in school achievement. The study validated this ideology by demonstrating, once again, that academic interventions significantly impact social behavior. In addition, both the study analyzed and the proposed research topic, adhere to the notion that a multi-faceted approach, where academic and behavioral variables are simultaneously assessed, is effective in developing practical interventions designed to promote the success of students with EBD in school.

Hendrickson, Gable, Novack, & Peck (1996) advocated the use of Functional Assessment of Behavior (FAB) as a data collection tool to determine the academic problems of students with EBD. The need to continue researching academic interventions is substantial. When compared to studies of the assessment of anti-social behavior, differential reinforcement and the study of classroom interventions have not been significant foci points in the academic milieu (Hendrickson et al., 1996). After conducting a FAB to determine the academic areas of concern, an alternating treatment design was implemented to determine which strategy would be most effective as a potential academic intervention. The subjects were seven third and fourth grade students determined to have difficulty spelling words upon conducting a FAB. Three different strategies, (CCC, Rainbow Writing, and Chaining) were introduced to aid in remembering how to spell a word. After applying each strategy, the students were tested to determine spelling accuracy. Strategy selection and implementation was counterbalanced to control for order effects.

CCC resulted in consistent scores of 100 for three of the students; Rainbow Writing resulted in the highest average scores for three others; and none of the strategies proved successful with one of the students, thus emphasizing the importance of data collection and verification of effectiveness for each individual student. Various results support the notion that the strategy assessment procedure, via the FAB, may be an effective and efficient way to determine what works for individual students due to the diverse nature of learning, especially for students with EBD.

This was a fair example of single subject design because while it was applied and socially valid, the IOA was never mentioned. However, the potential for generalization is substantial because FABs that address academic behaviors can be conducted by any child study team across various educational settings. Functional assessment, including the formulation of hypotheses and the gradual introduction of diverse strategies in analogue assessment sessions, is a socially valid method that can reveal individual learning modalities and promote student-centered lessons (Hendrickson et al., 1996). Identifying the effects of antecedent and consequent events, can help teachers identify effective instructional components. In other words, teachers who use FAB can 1) identify the academic activities that students are most successful with, 2) individualize them to meet the needs of specific students, and 3) apply them frequently. The teacher as an important member of the child study team, can apply the information collected using the FAB in the classroom and thus create data-driven instruction.

Component 3: Social Skills Instruction

Social skills instruction is defined as the act of teaching a specific social behavior in order to promote effective interactions. However, due to the fact that most students with EBD manifest a plethora of behavioral characteristics, it is not simple to design a specific social skills intervention that most can benefit from (Elliot & Gresham, 1991; Maag, 2004). Having said this, due to the very

nature of behavioral disorders, which can largely impact functional social relationships, it is paramount to impart social skills instruction when educating students with EBD. To further support this contention, Kupersmidt, Coie, and Dodge (1990) found that failure in social relationships can result in poor interpersonal development, peer and adult rejection, as well as academic failure. Three of the studies in this review addressed the development of social relationships of students with EBD as the subjects.

Miller, Lane, and Wehby (2005) employed a multiple baseline design to assess the results of a prescriptive, class-room based social skills intervention. Specifically, they studied the effects of social skills training on the inappropriate classroom behavior of students with EBD. The subjects encompassed seven students, five males and two females, with EBD receiving Special Education services. The study employed three intervention phases within the multiple baseline design across two groups of students. Each group participated in 24 training sessions where social skills were actively taught, targeting the areas of cooperation, assertion, responsibility, empathy, and self-control.

As dependent measures, direct observation data and behavior points were collected, both already in place in the classroom prior to the study taking place. The dependent variables consisted of inappropriate classroom behavior and on-task behavior; the independent variable consisted of social skills instruction. Results indicated that inappropriate classroom behavior decreased between baseline and intervention phases for both groups and not surprisingly on-task behavior increased for both groups as well.

This was a good example of single subject design because it was socially valid, applied in an urban setting, and demonstrated excellent reliability (IOA ranged from 92% -99%). The only possible limitation consisted of the potential for generalization because the study took place in a highly structured environment. This is a socially valid study of social development, especially important due to the lower achievement of students with EBD. Teachers need to know about the relationship between academic and social aptitude. Key individuals in a students' life, such as the teacher, often make judgements of competence based on the presence or absence of social skills (Gresham, 2002); therefore making it paramount to effectively teach acquisition of these skills. The study also provided a socially valid example of student-centered, active instruction, in the area of social skills, and extended its effects to the academic arena by focusing on increasing on-task behavior; which research supports is positively correlated with better outcomes in school and can potentially increase the chances for success of students with EBD in inclusive settings.

Nevin, Johnson, and Johnson (1982) studied ESE students mainstreamed into general education, who were achieving below grade level and who showed pro-social behavior limitations. Group and individual contingencies were studied via four variations of A-B-A designs. The subjects were children with special needs ranging from first to ninth graders, described as low achieving and exhibiting disruptive classroom behavior. The dependent variables, addressed behaviors such as math achievement, social acceptance, study skills, correct responses, achievement in social studies, among others, and were subjected to both individual and group contingencies. Results were consistent for all studies and found that group contingencies were very effective in developing, maintaining and generalizing academic and social behaviors. This study was an excellent example of single subject design because it was behavioral, applied, and reliable. Furthermore, the researchers explained all procedures in detail making it feasible for others to

implement the procedures. The potential for generalization is great because group and individual contingencies are applied in schools on a daily basis. This was a socially valid intervention because there is a need for validated instructional strategies that regular classroom teachers can implement with students exhibiting academic and social problems (Nevin et al., 1982). One of the most common concerns of general education teachers is related to the feasibility of implementing individual interventions for students with special needs given the number of students they have in class. This study provided a solution based on group contingencies that incorporated the entire class. In addition, it indirectly questioned the effectiveness of typical behavioral models based on token economies that are driven by individual point-sheets.

Madrid, Terry, Greenwood, Whaley, and Weber (1998) examined whether 10 first grade students, functioning at grade level and with the educational label of EBD, could improve six target behaviors related to peer interactions, when they tutored five general education students, also in first grade and functioning at grade level. Tutoring sessions took place for 20 consecutive school days, lasting twenty minutes, during third and fourth periods. An ABA design was implemented where data was collected in terms of frequency and duration of target behavior. For example, if the tutors would engage in cursing anytime during the tutoring session it was recorded and timed. Results indicated that during tutoring sessions the students with EBD, in this case the tutors, displayed a lower rate of problem behaviors, such as cursing and being off-task. Specifically, each of the five students exhibited a reduction in both frequency and duration of target behaviors. Interestingly, even though it was not the primary goal of the study reviewed, the tutees' writing scores also showed significant improvement.

This was a fair example of single subject design because while it was applied and generalizable the subjects with EBD were functioning on grade level, which is typically not the norm. A more reliable example would have been obtained with subjects within the 'typical average', given that being on grade level could be a potential confounding variable. This is a socially valid study of an educational practice that is uncomplicated and cost effective, and thus more likely to be implemented. Peer tutoring can potentially maintain on-task behaviors in a cost effective way, and its effectiveness is empirically supported (Fuchs 1997; Madrid et al., 1998). Typically, when it comes to a peer-tutoring scenario where one of the participants receives special education services, the tutor is often the general education student. However, in this case the study reversed this scenario, in order to give students with EBD a sense of responsibility and ownership of knowledge, both behaviors that should be generalized.

Component 4: Generalization into Inclusive Settings

Research has consistently demonstrated that students with EBD do not perform well given the existing educational practices that mostly place them in self-contained settings. In an attempt to change this, a recent shift in paradigm has led to the implementation of inclusive practices, where students with EBD are educated in general education settings or classrooms. While extensive research has been conducted on the topic of inclusive practices, there still exist significant discrepancies on how these practices impact students with EBD. Perhaps some of these issues stem from the fact that as discussed by Brosf and Nickerson (2004), the educational system has a difficult time effectively educating individuals with behavioral disorders, from both an educational and legislative perspective, due to the ramifications of problem behaviors associated with this label. Specifically, from an educational perspective, manifestations of these problem behaviors include

poor work habits, lower academic achievement scores and lack of pro-social skills. Due to these, even when students with EBD are 'included', they do not typically do well.

Another aspect of this educational challenge focuses on the extent to which general education teachers are equipped to deal with problem behaviors associated with the EBD label. To further accentuate this point, other researchers have indicated that the overwhelming majority of general education teachers do not think they have the skills necessary to educate students with EBD (e.g., Cheney & Barringer, 1995). With this in mind, teachers must be offered interventions that have proven to be effective when working with students with EBD. Two of the studies evaluated effective interventions.

Dupaul, McGoey, and Yugar (1997) conducted a multiple baseline design across participants to assess the effects of implementing peer mediated interventions and self-evaluation procedures, compared to the traditional strategies that rely heavily on the teacher being the mediator. Teacher-mediated interventions are not feasible in general education settings where larger numbers of students are being taught. The subjects were two 11-year-old males with EBD, who were selected for mainstreaming because their achievement was close to grade level. The dependent measures included direct observations, teacher and student ratings of social skills, self-esteem ratings, as well as partial interval records of the occurrence of on-task behavior. Specifically, a peer buddy was chosen from the general education classroom to rate the behavior of the student with EBD being mainstreamed and this rating was compared with the self-rating of the mainstreamed student. It is pertinent to note that these ratings often coincided, and that all subjects involved as well as teachers were trained to use the rating procedures prior to actual implementation.

Results indicated that the process of mainstreaming students with EBD can be potentially more successful by implementing peer- mediation and self-evaluation interventions, as evidenced by both students exhibiting higher rates of appropriate behavior across educational settings when the peer buddy condition was in effect. This was a great example of single subject design because it was applied in an urban setting and had excellent IOA (98.8%). In addition, as demonstrated by the study it is generalizable because it can be implemented in both self-contained and general education settings. However, it would be interesting to measure whether this intervention works in inclusive settings where students are not placed on merit but because the law requires it. Self-management interventions can be effective in increasing the frequency of appropriate behaviors manifested by students with EBD (see, Shapiro & Cole, 1994). The study provided a valid and reliable example of applied implementation of these interventions. Furthermore, it effectively showed generalization of the behavior to the general education setting. If teachers implement interventions that increase generalization to occur, positive peer relationships must be established. Peer mediated self-evaluation has a positive effect on social interactions and thus is an excellent tool to facilitate generalization.

Gunter, Reffel, and Rice (2005) conducted case studies with subjects ranging from kindergarten to high-school. The data described in this study was extremely valuable due to its practical nature. It basically offered effective instructional strategies, across ages and settings, that have proven useful in working with all students regardless of educational labels. These included asking questions that promote higher-order thinking, modeling appropriate behaviors, providing scaffolding and using visual organizers. The study was not an example of single subject design

because it employed qualitative as opposed to quantitative methods. However, the interventions discussed in the case studies were based on actual, daily classroom practices and guided by research. Nationally certified teachers are professional educators perceived as the leaders in the teaching profession (Gunter et al., 2005). As a result, their practice has much important information to offer. In addition, the fact that they are actively in the classroom, gives their interventions a practical credibility amongst other teachers. Moreover, instructional modifications are essential in promoting or enabling the generalization of appropriate behaviors, specifically when teaching students with EBD. Because it is important to identify effective teaching behaviours that help teachers teach students to generalize behavior across settings, the inclusion of students with EBD in the general education milieu becomes more feasible. As a result, as demonstrated by the study reviewed, it is crucial to implement interventions that are utilized in general education settings to facilitate the process of generalization.

Table 1 summarizes the studies and shows how they compare with respect to the criteria for single subject design. The result encourages the study of a holistic approach termed *encompassing academic accommodations*. This approach incorporates many aspects that contribute to the student's success in school as opposed to the traditional isolation of behavioral features that provide only a partial answer. Among the foci points of the research topic, is the notion of offering multiple, valuable interventions via encompassing academic accommodations, that are accessible enough to be consistently implemented, thus promoting the generalization of the behaviors that these are targeting.

Research Question

What are the effects of an *encompassing academic accommodations* approach on the academic and social progress of students with Emotional and Behavioral Disorders (EBD)?

Table 1. Summary Table Evaluating the Research Critiqued in this Review

Study	Applied	Behavioural	Reliable	Analytic	Generalizable	Empirical Validity-- Meaningful behaviour change	Social Validity-- Change validated by significant others	Missing?	Good example of single subject research?
Blankenship et al. (2005)	Yes (classroom)	Yes	Yes (IoA 98%)	Yes	Yes if computers available	Yes	Yes	Will it work in Urban low SES setting?	Yes
Gickling & Rosenfield (1995)	Yes; school- based but children were taken to a quiet area.	Yes	Yes (IoA 95%)	Yes	Yes, drill ratios can be replicated.	Yes	Yes	Multi-cultural, urban perspective, since all subjects were Caucasian	Yes
Scott & Shearer-Lingo (2002)	Yes; self contained special education classroom	Yes	Yes (IoA reading 99%; 87% for on task;	Yes (MB)	Across settings	Yes	Yes	Measures are somewhat limited because they are linked to the content of specific reading programs	Yes
Hendrikson et al. (1996)	Yes	Yes	No (IoA was not mentioned)	Yes (AT)	Yes	Yes, for all but one student	Yes, for all but one student	Intervention procedures were vague.	Fair example
Miller et al. (2005)	Yes—urban setting	Yes	Yes (IoA 92% on task; 99% inappropriate)	Yes (MB)	Yes	Yes	Yes	Due to the nature of the structured setting, limited generalizability.	Yes.
Nevin et al. (1982)	Yes, general classrooms in rural Vermont schools	Yes	Yes (IoA ranged from 87-100%)	Yes	Yes, across gender, age, settings;	Yes	Yes	Urban component missing as studies were conducted in Vermont	Yes
Madrid et al. (1998)	Yes, urban setting	Yes	No (IoA not mentioned)	Yes	Yes, peer tutoring is portable!	Yes	Yes	Subjects with EBD functioned on grade level, which is not the norm. Being on grade level could be a potential confounding variable	Fair example

DuPaul et al. (1997)	Yes, urban setting	Yes	Yes (IoA = 98%)	Yes (MB)	Yes (both general and special classrooms)	Yes	Yes	No mention of possible application in inclusive settings, where the students are not chosen based on 'merit' but because the law requires it	Yes
Gunter et al. (2005)	Yes, across age and setting	Yes	Effective strategies	Qualitative	Yes	No	Yes	Evaluation criteria for qualitative design not mentioned	Not applicable

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Choice-Making as an Intervention Strategy to Reduce Problem Behaviors

Mary Kristina Gonzalez

The impact of problem behavior and success in life has been well documented. Problem behaviors that are left untreated increase the likeliness of drop-out, substance abuse, unemployment, criminal behavior, and incarceration (Conroy, Dunlap, Clarke, & Alter, 2005). A number of studies have been conducted to determine best practices and interventions for curbing problem behavior. Children with disabilities tend to exhibit problem behaviors at a more frequent rate than their non-disabled peers. Problem behaviors can be defined as impulsive, anti-social or aggressive. These behaviors not only affect academic performance but also affect social skills. Classroom management and effective integration of pro-active strategies can decrease problem behaviors, increasing a child's success in both arenas (Gable, Hendrickson, Tonelson, & Van Acker, 2002).

Most behavioral interventions have had their roots in applied behavioral analysis. Many interventions of the past have relied primarily on consequences and punishment to decrease behavior (Dunlap, Conroy, Kern, Dupaul, VanBrakle, & Strain, 2003). Choice-making is an intervention that provides double the reinforcing value compared to most other interventions. Not only is the task chosen by the student obviously preferred, the act of being able to choose has also been found to be reinforcing (Kern, Mantegna, Vondran, Bailin, & Hilt, 2001). Choice-making has proven to be an effective tool for decreasing problem behavior. Furthermore, this intervention technique is low maintenance and cost effective (Gable, Hendrickson, Tonelson, & VanAcker, 2002).

Recently, the umbrella of Positive Behavioral Support has been found to be an effective means of providing children with the skills they need to become competent behaviorally (Duda & Utley, 2005). Within the large umbrella of Positive Behavioral Support Systems are choice-making opportunities. Choice-making as an intervention that is gaining popularity in research studies because of its natural reinforcing capabilities, as well as proactive nature in terms of teaching alternative behaviors.

Procedures and Effectiveness of the Research

A search was conducted using PsychINFO, ERIC, and Questia databases in order to identify all studies conducted between 1995 and 2006. A variety of key words were used including problem + behavior + choice-making + disability + children. Articles were chosen on their content to provide background, current findings, future implication, and the use of single-subject designs as an analytic method. Two articles comprised a review of previous research (e.g., Dunlap et al, 2003).

The single subject designs included withdrawal designs and multiple baseline designs. Three studies focused on a maximum of three children. One research team focused on children with autism (Carter et al., 2001); the other two focused on children diagnosed with emotional or behavioral disorders (Conroy et al., 2005; Harding et al., 2002).

All children involved in these studies were between the ages of 5 through 11. Finally, a research study incorporated choice making within the larger prevention program. One longitudinal study was conducted over four years and incorporated thirty-eight students ranging in ages 5 through 11.

All studies were applied because they were conducted in a classroom or school setting with the exception of the study involving language acquisition and children with autism. That particular study was conducted in a clinic for children with autism. The two researchers studied students with behavioral disorders in self-contained classrooms that specialize in educating children with emotional or behavioral disorders. The study by VanAcker, et al. (2003) which incorporated thirty-eight students was conducted in both self-contained and general education classrooms. The children were diagnosed with emotional and/or behavioral disorders, or as having Attention Deficit Hyperactivity Disorder. The study took place in a large urban school over the course of four years.

Discussion

Choice making as an intervention strategy has direct implications for practice within our schools. Implementing choice-making as an intervention is very easily adaptable and requires almost no upkeep. Choice making can be easily imbedded within any existing schedule (Kern et al., 2001).

When children were given the opportunity to choose tasks or the order in which they completed tasks, more academic accomplishments occurred. Task completion increased while behavioral disruptions decreased (Shogren et al., 2004). Frequency of aggression towards self or peers and inappropriate classroom behaviors decreased in all four studies allowing for increased behavioral compliance and academic success (Kamps et al., 2000).

Most studies showed a slight discrepancy between younger children (ages 5 through 7) when compared with older children (ages 8-11). When comparing all four studies, the younger children showed a more pronounced decrease which was maintained for longer periods than their older counterparts (Kamps et al., 2000). This implies that early intervention is a preferred strategy.

Limitations and Implications

There were similar themes in the limitations that these studies presented. Firstly, most studies in both the research analysis and single-subject designs used very small sample sizes to test the hypothesis of choice making as an effective intervention (Shogren, Fagella-Luby, Bae, & Wehmeyer, 2004). The nature of problem behavior within these populations also allowed for few reversal designs to be implemented. The ethical nature of allowing the children with conduct disorders to return to baseline performance levels was too questionable (Harding, Wacker, Berg, Barretto, & Rankin, 2002). Although no reversal designs were present, the data was convincing on the effectiveness of choice making as an intervention due to the use of alternative single subject procedures such as multiple baseline design.

When reading the analysis of many different studies, one comes across the most obvious limitations to the research. Only 32% of all studies conducted on interventions for challenging

behavior included an antecedent-based strategy like choice-making. The majority of studies center on the consequences of the behaviors (Conroy et al., 2005). This number seems to be too low to confirm whether choice-making is an effective means of reducing problem behavior. Further replication of existing studies are needed as well as new studies and designs to test the effectiveness of choice making as a behavioral intervention to decrease the occurrences of problem behaviors.

Research Questions

After looking at the limitations of prior studies, the intention of the author is to delve more deeply into interventions which represent a positive, proactive strategy for reducing problem behavior. The current study discussed addressed the issue of whether providing a choice becomes more reinforcing than what the student is choosing, (the preferred activity). The proposed study will set out to find whether it could replicate the results found in many studies, the decrease in problem behavior. More children will be involved within the study. In addition, non-preferred or less preferred reinforcers will be used to test the hypothesis that making a choice in itself provides enough reinforcement to create change in day to day behavior.

The first question to guide the scope of the study is whether a child can improve behavior in a classroom setting if given the opportunity to choose the activity they will be involved in. Furthermore, does the act of making a choice allow a student with an emotional or behavioral disorder to gradually improve behavior even when the choice is between two less preferred academic activities? Finally, the study also will address whether choice-making can improve academic achievement when the choice is between two academic activities?

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Effects of Group Counseling on BASC Measures of Social Skills of Elementary Students

Christine Slocomb

The most commonly diagnosed childhood disorder is Attention-deficit/hyperactivity disorder (ADHD). In fact, "3% to 5% of the school age population has ADHD" (Webb & Myrick, 2003, p. 108). There is also coexistence between ADHD and other diagnosed challenges, such as learning disabilities and conduct disorders (Wender, 2000). Students with (ADHD) tend to have "behavioral disinhibition", which leads to disruptive behaviors in a classroom setting (Edwards, 2002, p. 126). Disruptive behaviors in a classroom may lead to both social challenges and academic challenges for students with ADHD. Since students with ADHD have behaviors that are often seen as annoying or bothersome, "approximately 50- 60% of students with ADHD may experience rejection from their peer group." (Demaray & Elliott, 2001, p. 69). Furthermore, the negative behaviors associated with ADHD may play a role in students with ADHD not finishing academic work, or focusing on academic work, which can lead to academic failure. In fact, "56% of ADHD students may require academic tutoring, up to 30% may repeat a grade, and 30-40% may be placed in special education programs" (Webb & Myrick, 2003, p.109).

Single subject research design studies suggest that structured interventions are effective in treating social skills of students with disabilities. Mathur and colleagues (1998) conducted a meta-analysis of 64 single subject research design studies, which investigated the use of social skills interventions with students with emotional and behavioral problems (E/BD). Studies were evaluated in terms of the proportion of non-overlapping data (PND) displayed between baseline and treatment and revealed modest effects for social skills instruction for students with E/BD. A PND of 62% is considered mildly effective, indicating that students utilized social skills at higher rates than at baseline levels in slightly more than half of the studies investigated. However, these improvements may be considered by educators as "socially important and significant" (Mathur et al., 1998, p.198). In sum, the results of the meta-analysis is "consistent with a previous meta-analysis of 53 studies that employed social skills interventions with students with learning disabilities (Kavale & Forness, 1995) which indicated modest treatment effects for social skills instruction" (Mathur et al., 1998, p. 198).

Furthermore, results from structured intervention programs, such as the Project for Attention-Related Disorders (PARD) suggest that students with ADHD can benefit from a school-based intervention model that coordinates medical, psychosocial, behavioral, and educational interventions. A unique component of the PARD program was group counseling. Specifically, results of the PARD program suggest that 60% to 70% of children showed overall improvements after participation in the program. PARD serves as a model for other school districts to assist children with ADHD (Daley, Horn, Nader, & Williams, 1993).

Sawyer and colleges (2004) found that counseling was the most common intervention provided by schools for students with ADHD. Furthermore, counseling for both parents of students with ADHD and students with ADHD was the most common treatment provided by health services outside of schools. Counseling topics for students with ADHD frequently include how to manage behavior problems and how to better family relationships (Sawyer, Rey, Arney, Whitham, Clark, & Baghurst, 2004). Assisting students with ADHD, through group counseling, in understanding their

own disorder and how it impedes social and academic functioning is the key to facilitating students with ADHD in monitoring their own behaviors (Webb & Myrick, 2003).

School Counselors and Accountability

Brigman and Campbell (2003) suggest that the most effective way for school counselors to demonstrate their effectiveness on both student achievement and student behavior is through group counseling. Furthermore, the results of Shechtman's research review (2002), suggest "in order to improve achievement, the social and emotional dimensions along with the academic need to be addressed" (Brigman & Campbell, 2003, p. 92).

Although an increased usage of single subject designs in counseling has been previously suggested by Aschelman (1991), Whiston (1996) and Wilson (1987), "recent studies using this approach are rarely evident in the literature" (cited in, Jones, 2003, p.28). Jones (2003) suggests that this may be because of misconceptions about the external validity of single subject designs, the false assumption that single subject designs are only for behavior modification studies and general deficits in training on research designs of school counselors. However, Lundervold & Belwood (2000) consider single subject designs to be "the best kept secret in counseling" (Jones, 2003, p. 28). They further claim that single subject designs are "scientifically credible means to objectively evaluate practice and conduct clinically relevant research in practice settings" (Lundervold & Belwood, 2000, p. 92). Single subject designs are an effective way for school counselors to document the effectiveness of group counseling on academics and behavior (Lundervold & Belwood, 2000).

Literature Review

The databases that were used to find articles for the literature review between the years of 2000 and 2006 were ERIC and PsycINFO. In addition, footnote tracking using scholar.google.com was also used. Keywords included: group counseling, single subject designs, and counseling.

All authors of the articles reported behavioral and/or academic benefits of structured intervention programs for children. The first two studies suggest that structured group counseling is an effective social and academic intervention (Webb & Myrick, 2003; Webb, Brigman, Campbell, 2005). The next two studies suggest the group counseling is an effective behavioral intervention (Shortt, Barrett & Fox, 2001; Hall, 2006). The final study presented reports that a structured intervention program may assist young children in not developing asocial behaviors (Golly, Sprague, Walker, Beard, & Gorham, 2000).

Myrick and Webb (2003) investigated a counseling intervention unit for students with ADHD, which aimed to help them understand how ADHD impacts their classroom performance. Fourteen counselors ran a counseling intervention group for six sessions. The unit was based on a theme of traveling and aimed to assist students in listening, attending, following directions, and increasing their social competence in an enjoyable and purposeful way (Webb & Myrick, 2003).

The authors used a School Counselor Survey, the School Success Inventory- Student Form [(SSI-SF)], and the School Success Inventory –Teacher Form [(SSI-TF)] to measure participant benefits. At the end of the intervention, all counselors (100%) agreed on the

effectiveness of the “unit content, sessions, and outline, and would recommend the unit to other counselors” (Webb & Myrick, 2003, p, 120). All counselors (100%) also felt that the unit assisted them in better understanding students with ADHD. Furthermore, 93% felt that students changed their perceptions of themselves as students as a result of intervention. When students and teachers were asked to rate success before and after intervention, “mean student ratings improved by 12.33 points” and “teacher ratings improved by an average of 13.55 points” (Webb & Myrick, 2003, p.120).

The study was applied because the intervention took place in a school setting. The study was also socially valid because it investigated school success. Positive treatment effects for participants were generally agreed upon by counselors, teachers, and students. However, the reliability and empirical validity of the study is questionable, because the study did not directly discuss target behaviors or what exactly the SSI-SF and SSI-TF measured. Therefore, it is difficult to tell if the study really measured what it was intended to measure; if the SSI was reliable (Webb & Myrick, 2003).

Not only are the results difficult to generalize because of the questionable reliability and validity of the measures, but also because the authors did not specify demographic information on the participants. It would have also been useful to know how long students had been diagnosed with ADHD, and whether or not they were on medication. Furthermore, the article did not state how participants were selected (Webb & Myrick, 2003).

Another study by Webb, Brigman, and Campbell (2005) corroborated prior research findings that structured group counseling, using the Student Success Skills (SSS) intervention, improved academic and social competence of elementary and middle school students. The study included 418 5th and 6th grade students who were randomly selected and randomly assigned to participate in the SSS counseling intervention group. These students had scored between the 25th and 60th percentile in reading and math on the previous year's Florida Comprehensive Assessment Test (FCAT). FCAT reading and math scores were used to measure academic improvements and the School Social Behavior Scales (SSBS) scores were used to measure social progress. Furthermore, technical manuals for the FCAT and SSBS were reviewed to ensure reliability and validity (Webb et al., 2005).

Structured group counseling using the SSS intervention was once a week for eight weeks, with each session lasting for 45 minutes. In addition, there were four monthly follow up sessions. The group counseling sessions were structured to foster SSS skills sets. The SSS model is based on research reviews conducted by Masten & Coatsworth (1998), Wang and colleagues (1994), and Hattie and colleagues (1996) (as cited in Brigman & Campbell, 2003). Findings suggest that the following SSS skill sets increase academic and social outcomes: (a) cognitive and metacognitive skills such as goal setting, progress monitoring, and memory skills; (b) social skills such as interpersonal skills, social problem solving, listening, and teamwork skills; and (C) self management skills managing attention, motivation, and anger (Webb et al., 2005, p. 407).

Although results revealed academic improvement according to FCAT reading and math scores for students in the treatment group, academic improvements according to FCAT reading and math scores were also noted for students who were in the control group. However, statistically significant increase differences using ANCOVA were reported on math FCAT scores for students in

the treatment group compared to those in the control group. Yet, statistical significance increases for reading FCAT scores using ANCOVA were not determined between treatment and control groups. The empirical validity of this part of the study is in question, because a strong functional relationship between academic improvement and group counseling was not measured by both reading and math FCAT scores (Webb et al., 2005).

Teacher rating on the SSBS completed prior to and after treatment for students in the treatment group showed a significant improvement in their social skills, establishing a statistically significant relationship between the independent variable (group counseling) and the dependent variable (teacher ratings of social skills). In fact, "seventy-two percent of the students improved; the average amount of improvement was 19 percentile points" (Webb et al., 2005, p. 411).

The study was applied (it took place in a school), behavioral (it measured observable and clearly defined behaviors), and socially valid (measured meaningful behaviors). However, the study was not entirely analytic, because it is uncertain if positive changes in behaviors would have also occurred if the intervention had not been applied. Since high-stakes testing, such as the FCAT, is an accountability measure for student success, there is an increasing pressure on schools to improve student performance. The authors did not mention if the schools were also implementing various additional interventions or strategies that may have contributed to increases in student performance. Furthermore, student social skills were measured in September prior to treatment and in April after treatment. Perhaps, student improvements in social skills were because of maturation and not the treatment. Finally, results of the study can not be generalized to the general population, because the majority of participants were Caucasian, from the same demographic area, and in the 5th & 6th grade levels (Webb et al., 2005).

Shortt, Barrett, and Fox (2001) investigated the impact of the FRIENDS program on anxious children's behaviors. The FRIENDS program is a family-based group cognitive behavioral treatment (FGCBT). Friends is an acronym for the following: "F-Feeling Worried?; R-Relax and feel good; I-Inner thoughts; Explore plans; N-Nice work so reward yourself; D-Don't forget to practice; S-stay calm, you know how to cope" (Shortt et al., 2001, p. 526). The FRIENDS program content is based on cognitive behavior therapy principles, but also includes other unique elements, such as encouraging families to practice learned skills with students, fostering student peer relationships, and urging children to attribute their success to internal factors (Shortt et al., 2001).

There were 71 children participants aging from 6 to 10 years of age who had a primary diagnosis of generalized anxiety disorder (GAD), separation anxiety disorder (SAD) or social phobia (SOP). Participants were either randomly assigned to the FRIENDS program or a 10-week wait list control group. The treatment consisted of 10, 50-60 minute sessions, which were video taped and later viewed to examine whether clinicians were adhering to treatment manuals. A high interobserver agreement (96%) was established for content of group sessions. This process ensured treatment integrity (Shortt et al., 2001).

Diagnosis and severity ratings were determined by the Diagnostic Interview Schedule for Children, Adolescents and Parents (DISCAP) both before and after the FRIENDS intervention. High interobserver reliability for diagnosis and severity ratings was achieved based on videotaped interviews with parents for 25% of the students. The Revised Children's Manifest Anxiety Scale (RCMAS), which has internal consistency and "moderate" retest reliability, was used as a self-

reporting measure for students. Furthermore, the Child Behavior Checklist, which has both reliability and validity, was completed by parents to measure changes in internalizing behaviors. Results suggest that "69% of children who completed FGCBT were diagnosis-free, compared to 6% of children completing the wait-list condition" (Shortt et al, 2001, p. 525). Furthermore, there were also significant improvements in severity ratings. Benefits were retained at a 12-month follow up (Shortt et al., 2001).

The study was not applied because it took place in a clinic. Furthermore, the study was not entirely behavioral. Explicit target behaviors were unclear. Results are primarily based on the presence or absence of a diagnosis, which is often not easily observable. Next, results of the study can not be generalized to the general population, because most of the participants (92%) were Australian and all of elementary school age with a mean age 7.85 years (Shortt et al., 2001). Most participants were female. Garduno (2001) suggests that females and males react differently to cooperative learning experiences, such as FRIENDS. Females tend to react more positively to cooperative learning than males (Garduno, 2001).

The study was somewhat analytic because it suggests that change in behavior occurred as a result of treatment. The study was socially valid because it investigated anxiety, which in excess may cause significant impairment in functioning. Furthermore, positive treatment effects were also observed in treatment satisfaction measures for both parents and children. In fact, parents "rated all the skills taught in the child sessions of FRIENDS as useful for their child" (Shortt et al., 2001, p. 532). Moreover, 44% of children reported that they would "often" use FRIENDS strategies, and 83% reported that the program was "fun" (Shortt et al., 2001).

Hall (2006) investigated the effectiveness of group counseling, when used to implement Problem-based Learning (PBL), on assertive behaviors of victims of bullying. PBL allows students to "actively discuss and analyze problems, form hypothesis, and create personal learning issues" (Hall, 2006, p. 231). The participants of the study were 5 African American 7th graders who were enrolled in a large rural junior high school. There were 3 male participants and 2 female participants. Group counseling sessions were held twice weekly for 3 weeks. Behavior was measured using a counselor-created behavior rating scale that was completed by teachers. Results revealed that "subjects improved responding assertively to students who bully" (Hall, 2006, p. 235).

The study was applied because it took place in a school and behavioral because it measured behaviors that were observable. The study is analytic because it used a single subject A-B design with baseline logic. A functional relationship between the intervention and behavioral improvements were also established making the study empirically valid. Behavioral improvements were meaningful because bullying often creates fear and distress in victims, which may just facilitate the cycle of bullying. However, the results of the study are difficult to generalize because participants were not from various age, ethnic backgrounds and locations. Furthermore, the study was not reliable because interobserver agreement was not established. Because the rating scale was created by the counselor, it lacks documented reliability and validity (Hall, 2006).

Golly, Sprague, Walker, Beard, and Gorham (2000) investigated the effects of the First Step to Success intervention program created for kindergartners who were identified by the Early Screening Project (ESP) as being at risk for developing antisocial behaviors. The First Step to

Success intervention program uses a consultant, such as a school psychologist or counselor, to encourage collaboration between the home and school portions of the program. The consultant facilitates the first five days of the program then turns the management over to the student's teacher. However, the consultant continues to provide support and supervision both in the home and school setting. The program is approximately 3 months long and is applied with only one target participant at a time (Golly et al., 2001).

Participants were carefully selected using teacher nominations on externalizing and internalizing behaviors using rating scales, checklists, and direct observation in structured preschool activities. Originally, participants were four sets of twins. However, data was not gathered for two sets of twins because of attrition. Although the article reported that participants were in the normal range of intelligence, IQ scores were not reported. Furthermore, all participants were Caucasian and five years old, which makes the study difficult to generalize to diverse ethnic populations and multiple age groups (Golly et al., 2001).

The study was analytic because a multiple baseline design across subjects was used to determine the relationship between the intervention and student behavior.

Functional relationships were established giving the study empirical validity. The maintenance data, which was only reported for Twin 2, displayed a positive trend in academic engaged time (AET) and five target behaviors (being out of seat, touching others, touching others' property, talking out, and noncompliance). However, it would have been beneficial if maintenance and follow up data could have been provided for all participants "to document the persistence of program gains" (Golly et al., 2000, p. 180).

The study was behavioral. Data was collected by observation, and all target behaviors were clearly defined. Observers used a duration data collection method to determine the AET, and a frequency data collection method to determine the number of times students were out of their seats, touched others or their property, talked out and were noncompliant. Furthermore, interobserver agreement of 25 % of data was calculated to be 97%. The study was applied because it took place in both the home and school setting. The change in behavior was meaningful and the study was socially valid. After all, "proven interventions of this sort have the potential to divert some of these children from a path that too often results in school failure, dropout, and sometimes delinquency" (Golly et al., 2000, p. 180).

Conclusion

Overall the research suggests the structured interventions, such as group counseling, are effective behavioral and/or academic interventions for students. Although ADHD is a chronic condition, it is hypothesized that group counseling may ameliorate behaviors associated with the disorder, which may lead to social and academic challenges

Research Question

The purpose of this study is to investigate group counseling as an intervention for students with ADHD in a multicultural urban setting. The main research question for this study was: Can structured group counseling improve challenging behaviors associated with ADHD?

Specifically the study wanted to answer the following sub questions:

1. What are the effects of group counseling on attention?
2. What are the effects of group counseling on hyperactivity?
3. What are the effects of group counseling on learning problems?

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Effects of Reading Interventions on Children Ages 6-11 with Learning Disabilities

Gema Montes De Oca

In the past years, many of the school districts have increased the standards on passing achievement test. Superintendent, legislators and professionals as well as parents have called increasingly improving the quality of education on all levels. The teachers, administrators and parents are accountable for much of the learning that goes on at school and at home. In addition, they have added an accountability paying plan, where teachers will demonstrate the student's improvement based on the data provided, teacher will get an increase in salary. This plan has not been implemented or evaluated completely, but it has put many teachers in a defensive mood. Many teachers feel too much pressure and argue that many of the student's achievement cannot just lean on the teacher's responsibility.

It is important to improve the student's reading abilities. Children that experience reading problem at a young age can face other academic challenges as they move through the school years. A study conducted by Chard and Kameenui (2000) stated that children who are poor in reading skills in first grade, their likelihood of successfully finishing high school is significantly decreased. As a result of the poor reading abilities, poor readers also develop a dislike of reading and gradually read much less than skilled readers. Many of these children that have not attained sufficient reading skills do not do as well as other students in content area classes, have lower self-esteem, and are more likely to demonstrate discipline problems in school (Nes, 2003). It is critical to provide appropriate instruction so that every child is successful in not only learning to read but also in developing advanced reading skills.

These articles were found using the Florida International University databases. I used Eric to produce the most relevant journals using keywords such as; interventions, reading difficulties, and reading disabilities. These articles were chosen because they implement user friendly reading interventions that can be realistically used in an applied setting.

Literature Review

Alber, Nelson, and Brennan (2002), compared two study methods in the acquisition and maintenance of social studies content. On three dependent variables: homework accuracy, next day quizzes and for maintenance of the material unit test. These students had read social studies passage and answer question in two different forms. The two study methods included SRQ (standard review question) or SRWS (structured reading worksheet). The students answered questions on the worksheets after having read the passages. After doing this alternating treatment design, SRWS students showed more acquisition of the material.

The acquisition of the material was demonstrated by the completion and accuracy of the worksheets. The SRWS students showed to have a better maintenance of the material after administering the chapter test and after each quiz section. Two of the students in the general self-contained class had been receiving special education services, and both students demonstrated an improvement with the SRWS study method rather than with the SRQ method. This study used reliable measures with an inter-observer agreement ranging from 95% to 100% for all students in all phases of the study homework assignments and next day quiz scores and for all chapter tests.

Future research might want to explore the effects of including higher level thinking questions in homework assignments. In addition, an examination of the effects of specific and directly taught study procedures could be effective, (e.g. implementing reciprocal peer tutoring prior to the quiz, developing mnemonic strategies for remembering the information, having students develop their own study questions, using cooperative peer study groups). Finally, other studies should objectively measure the length of time the students spent on homework completion as a variable for determining acquisition and maintenance of content information.

Daqi and Nes (2001) used paired reading to help ESL students to become fluent and accurate readers. The students were two boys and two girls in the first, second and third grades from an urban school district in West Texas. They were all Chinese origin and had been residing in the United States for only a short period, varying from a few weeks to a few months. They were all in the regular education program of their school, but each one of them was removed from the classroom every day for about 40 minutes to study in an ESL class.

Another skilled reader examined the student's reading performance. The paired teacher was a doctoral student with past experience of teaching reading to students whose mother tongue was not English. He spoke both English and Chinese fluently and was familiar with the cultural background of the participants. Paired reading requires the reading partners to read aloud. This can have many benefits: a) it improves their language skills and motivates them to read on their own, b) it makes students familiar with books and their language and c) it keeps students' attention to the context and lends itself to vocabulary learning. Studies have shown that, when the paired reader is a certified teacher, results are even more significant. The setting was at home at the convenience of the students to be able to have the least restricted environment for the students to feel comfortable and not have any anxieties that might interfere with the student's improvement.

A modified A-B design examined the effect of the paired reading method of instruction. This design provides a framework within which behavior can be objectively measured under controlled conditions (Daqi & Nes, 2001). The results of the study demonstrated the paired reading effectively improved ESL students' reading performance in English. The students who participated in this study demonstrated steady increases in reading fluency and reading accuracy. These findings are particularly beneficial to those students who are seeking ways to help ESL students with reading in English.

Although this study involved students of different age levels and gender, the generalizability is limited since it only included 4 students. There is also the possibility that since the students were attending a public school, they had opportunities to interact with teachers and peers that might have impacted in the improvements of the overall language skills as a result of school learning and daily exposure to English. For this reason, further research should analyze the students' natural improvement.

Nes (2003, investigated the use of paired reading to enhance the fluency skill of less skilled readers. The purpose of this study was to explore reading fluency, comprehension, and accuracy within the context of the paired reading instructional intervention. A single subject changing criterion design was employed. The participants involved in this study were also four students in the fourth, fifth, and sixth grades from rural school district in West Texas participated in this study. They were all reading one year or more below grade placement, were recommended by

their classroom teachers, and were reading 35% or more below recommended minimum oral fluency rates. The study was conducted in the school library during non-use periods. The author of this study served as the skilled reader for each of the students. The reading material remained constant throughout the study. Each session centered around the reading of connected text from a trade book. A stopwatch was used to time each passage to obtain reading fluency rates. The control group consisted of the next sequential passages of text from the same book that the student had been reading but without the benefit of the paired reading techniques.

Paired reading instruction promoted rapid turn-around in reading fluency proficiency for less skilled readers. Paired reading was an effective method of instruction for all four participants. In each case, reading fluency rates increased greatly, while high and stable levels of accuracy and comprehension were maintained. Because some of the students needed to be engaged, and to have a positive impact, the sessions were organized to be interactive, and participants were very involved in the entire process. Goal setting and concrete evidence of progress also played a role in the outcomes for the four readers in this study. One way to influence children's learning is to influence their goals. Therefore, if achieving personal goals promotes self-satisfaction, goal setting and attainment may serve as reinforcement and a motivator. First, graphing their own individual progress gave the participants concrete proof of their achievements. These motivational clues could have resulted in greater enhancement of the fluency skills of less skilled readers.

Scott and Sherman (2002), showed the effects of reading fluency instruction on the academic and behavioral success of middle school students in a self-contained classroom with students with EBD. Both academic and social behaviors were studied. Identification of students with emotional and behavioral disorders (EBD) has increased 21% over the past 10 years, indicating an increase in students who are the highest risk for failure. Because of the strong relationship between reading failure and general school failure, reading instruction should be studied as an intervention for students with a history of academic and social failure in school.

The participants were three seventh grade boys. The students used two reading programs. The distinction between the two programs was the delivery. Although both are phonics-based, in the Teach Your Child program, the teacher models letter-sound correspondences, leading the student through practice with the sounds, and finally testing the students. The students' reading fluency was measured using a grade level reading passage from Great Leaps. The appropriate passage was selected using the Great Leaps placement test. During the Teach Your Child phase of the study, oral reading fluency was measured on repeated readings of the same passage during weekly probes as well as measured of on-task behavior for all the students. A partial-interval time sampling was used to measure each student's on-task behavior to be monitored once each week during the study.

A multiple baseline across-subjects design examined the effects of the two reading programs on the students' reading fluency and on-task behavior. A multiple baseline was selected because of the academic nature of the intervention. Results for the oral fluency indicated that Teach Your Child phase showed little or no increase. Although only the reading fluency was monitored for this study, program data indicated phonic and sight word fluency displayed similar trends during the Great Leaps phase. Results of on-task behavior during reading showed a slight improvement during Teach Your Child phase, and showed a marked increase in level. Reliability of measurement was calculated at 99% on the oral reading fluency measures. Both authors

monitored 25% of the readings to determine inter-rater reliability. Both authors collected on-task measures, with a 25% overlap demonstrating 87% inter-rater reliability. There were several limitations to this study. First, the reading measures were limited to oral reading fluency and were measured using a single measure during the baseline and Teach Your Child phases. In addition, the Great Leaps program both teaches and measures reading fluency, allowing students to reread the same passage repeatedly. These facts seriously limit both the degree to which strong statements can be made regarding generalization of fluency improvements and the ability to compare the two instructional programs. Second, the students' attendance was often sporadic.

In conclusion, considering all strengths and limitations, the results of this study indicate that facilitating reading fluency in self-contained classrooms for students with serious emotional and behavioral disorders can have positive effects on both reading achievement and on task behavior. Specifically, successful outcomes appear to be related to reading instruction that is delivered at the student's level, provides repeated practice opportunities, maintains direct teacher-student interaction, and actively involves students monitoring their progress. Although both programs provided effective instruction, the Great Leaps program provided students with more frequent opportunities to measure their success. All students were very motivated by following charts of their daily fluency rates. Further research should investigate specific instructional techniques that are necessary and sufficient to promote success. Additionally, research should examine the amount of time that is required to facilitate success, the types of academic skills that are mostly suitable to these instructional practices, and the types of student academic/behavioral profiles that are most affected by such instructional methodology.

Miao, Darih, and Rabren (2002), investigated the effectiveness of a pre-correction procedure in teaching decoding skills to students with learning and behavior problems. Six students with learning and behavior problems (mild disabilities) from a public school in southeast Alabama participated in multiple-baseline single subject research process. In the baseline phase Direct Instruction (DI) was the primary teaching method. In the treatment phase, pre-correction was added to evaluate the effects of pre-correction on accuracy in reading on acquisition, retention, and on-task behavior. Experimentation lasted for 21 days. Students' responses were recorded as correct when they provided the correct phonetic sound to individual letters. Also students' responses were recorded as correct when they either phonetically sounded out the words, or read the words correctly as sight-words. The purpose of the maintenance test was to evaluate students' ability to recall the decoding skills previously taught. Subjects were asked to read a list of words taught in previous lessons. The maintenance test was administered after each teaching session during baseline and intervention. On-task behavior was measured to determine the levels of participation during baseline and intervention condition. On-task behavior was graphed as the percentage of coded intervals that were recorded. On-task behavior was operationally defined according to what was appropriate behavior for each particular portion of the reading instruction class.

The pre-correction procedure used three strategies following teaching steps. In pre-correction strategy 1, the experimental teacher modeled the correct sounds for the most difficult discriminations in the lesson for the students before the actual lesson began. In pre-correction strategy 2, students carefully looked at each vowel sound presented in the reading task and then provided a clear model for each vowel sound prior to reading the list of words. In Pre-correction strategy 3; the subjects were reminded not to stop between the sounds when blending the sounds

in the word. The precorrection strategy focused on words that were difficult to sound out. Specifically, words that began with stop sounds (e.g., tap, bat, cup.) were targeted.

Using pre-correction as a, intervention improved students' accuracy in reading sounds and words, and increases on-task behavior. The children were divided into three groups: a) a phonemic awareness group, who received instruction in segmenting phonemes and in letter-name and letter sound correspondence; b) a language activities group, who were provided instruction in various language activities and letter name and letter sound correspondence; and c) a control group, who received no intervention. The phoneme awareness group performed significantly higher than the language activities group and the control group on a phoneme segmentation posttest. In a longitudinal study, conducted by Shaywitz (1996), the authors estimated that 17.5% of the school children in primary and middle schools have reading disabilities. Reading difficulties, in part, can be due to either biological deficits or poor reading instruction. Poor readers sometimes have phonological processing problems caused by underdevelopment of the brain system. But for those children without biological deficits, difficulties in reading may be due to inappropriate reading instruction.

Conclusions

After reviewing the articles on different reading interventions used with children ages 6 to 12, interventions can improve reading fluency, comprehension, and maintenance of the material read. Some of the interventions used 1) paired reading with ESL students and regular students, 2) study methods like the SRQ and SRWS, and 3) reading fluency instruction for academic and behavioral success in middle school students. Students who have reading difficulties should receive the proper intervention whether in reading fluency or study methods. Students who have difficulty reading might have behavioral and academic problems for the rest of their lives and many won't be able to graduate from high school. What none of these studies mentioned is the effect that reading ability has on their self-esteem and social environment. Children who have a difficulty reading may have issues with their self-perception.

Research Question

The research question to be addressed in proposed for further study is: What effects do paired reading, structure worksheets, and pre-correction reading interventions have on self perception of children with reading difficulties?

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Review of Research Supporting Collaborative Strategic Reading

Whitney Moores-Abdool

Today, more than ever before, educators are recognizing that reading skills are critical to student achievement in all subject areas. In order for students to understand critical content in all subjects, they must be able to read with fluency and comprehension. According to Margaret Spellings (nd), Secretary of the United States Department of Education, "A child who can read is a child who can learn. And a child who can learn is a child who can succeed in school and in life." In light of the nation's focus on reading, it is interesting to note the idea of literacy as a metaphor for power as proposed by Scribner (1988) which has the ability to impact societal constructs (Wiley, 1996). The power of literacy as it relates to economics is very clear when we look at the significant earnings differences between high school dropouts and those with 4-year college degrees.

Issues of literacy and the related power of literacy become even more critical when we discuss students who are culturally or linguistically diverse (CLD), or who have disabilities. These students are at significant risk for underachievement in reading related activities, which virtually encompasses all forms of academic achievement. CLD students often have difficulty in typical learning environments due to cognitive styles that differ from the mainstream culture (McIntyre, 1996), which in turn negatively impacts their academic achievement. It is not surprising that one of the key factors affecting students being identified for a disability is reading difficulties in school (Burnette, 1998). This has an especially high impact on CLD students (McIntyre, 1996). According to Williams (2000) it has been found that even if a student with disability becomes a fluent reader, they may continue to have difficulty with comprehension, especially in the upper grades.

As a result of these inequities, and the nation's intense interest in reading achievement, educational researchers have been busily forming remedies for this problem. Educators and researchers have responded to the need to improve reading with a number of different approaches. Based on reading courses this writer has taken, and discussion with colleagues, it appears that Collaborative Strategic Reading (CSR) (Vaughn, Hughes, Schumm, & Klingner, 1998) embodies many widely currently used strategies for teachers across the content areas. For this reason, this writer chose to focus this literature review on CSR. The key words used for this research were "Collaborative Strategic Reading" as a subject. Thereafter, the Boolean search method with "Vaughn" for an author search and "Collaborative Strategic Reading" for subject search. "Vaughn" was used for the author portion, since it appeared that this researcher had done much work in the area. The literature search was done on the Florida International University Library Database, specifically accessing ERIC via Institute of Education Sciences and Education Full Text via Wilson Web. The literature review will describe and critique several studies that examined teacher implementation of CSR, the effect on general education student comprehension in both lower and upper grades, and the impact on CLD learners and learners with disabilities.

Literature Review

All of the studies reviewed for this paper used quasi-experimental designs, using statistical analyses to compare baseline through pre-tests to post-tests obtained after the intervention phase. Two reports on CSR included a discussion on a series of studies on improving reading

comprehension among various age groups of students (Bremer, Vaughn, Clapper, Ann, & Kim, 2002; Vaughn, Klingner, & Bryant, 2001). Another set of reports focused on a year long implementation of CSR in five intervention schools, with five control schools, and then the researchers did a 3-year follow-up to determine if and how teachers implemented CSR, including influences to practice (Klingner, Vaughn, Arguelles, Hughes, & Leftwich, 2004; Klingner, Vaughn, Hughes, & Arguelles, 1999). The final study examined fluency and comprehension for third grade students in regular classroom settings when teachers were trained in, and implemented CSR (Vaughn, Chard, Bryant, Coleman, Tyler, Linan-Thompson, & Kouzekanani, 2000). The following is a critique of these studies.

Bremer et al. (2002) reported on several studies that illustrated how the introduction and implementation of CSR strategies by teachers increased reading comprehension for students with disabilities in the mainstream classroom. The report was designed as a research to practice brief, so the authors did not go into great detail about the studies. The authors outlined ways in which teachers could implement CSR with a brief overview of three studies. The authors collected baseline data collection through pre-tests measures, and compared the intervention phase with the post-test to the baseline in the results section.

In the first study, Bremer et al. (2002) 26 seventh and eighth graders with learning disabilities who spoke English as a second language (ESL). Students were introduced to a modified reciprocal teaching method in cooperative learning groups in the intervention phase. This included learning skills like brainstorming, prediction, highlighting and summarizing the main idea(s), clarifying difficult words or phrases, and asking and answering questions. According to the authors, most of the students with learning disabilities increased their reading comprehension. However, they provided no details about methodology, implementation, or inter-observer agreement.

In the second study, Bremer et al. (2002) studied 60 sixth-grade middle school students with differing reading abilities in a inclusive classrooms. The intervention phase included CSR in combination with Word Identification (Lenz, Schumaker, Deshler, & Beals, 1984), and Partner Reading (Mathes, Fuchs, Fuchs, Henley, & Sanders, 1994). Although students with learning disabilities improved reading ability and fluency, comprehension scores were not improved. Again, as in the first study, there were no details about methodology, implementation, or inter-observer agreement.

In the third study, Bremer et al. (2002) referred to Linger, Vaughn, and Schumm (1998) who included students with a varied range of reading abilities. However this time the setting was in fourth grade classrooms. Additionally, they compared students being taught with CSR strategies in the intervention phase to those receiving no intervention. Students in the CSR group showed higher levels of comprehension than those in the control group. There were no details provided about methodology, implementation, or inter-observer agreement.

The author refers to two other studies, one with elementary CLD students in an English as a second language class and the other with elementary students who have disabilities. In the case of the CLD students in the ESL class, their vocabulary increased from baseline in the pre-test, as compared to the intervention phase, the post- testing. They spent more time in helping behaviors and academic discourse in the intervention phase. A similar phenomena occurred with the

elementary students who had disabilities: CSR increased reading comprehension and vocabulary acquisition in the intervention phase. Since this was a brief research to practice paper, the authors did not mention any details regarding methodology, implementation, or inter-observer agreement.

Due to the absence of data on inter-observer agreement and information about implementation, it is difficult to judge if the interventions were reliable. Additionally, we only have the word of the authors that the interventions resulted in increased vocabulary attainment and improved comprehension; there are no quantitative results to back up these assertions. While CSR strategies seem logical, based on this paper alone, the reliability of such an approach is inconclusive.

Vaughn, Klingner, and Bryant (2001) reported on a series of studies on CSR for students who are CLD in ESL programs and who have disabilities in various settings. Four of the studies were conducted in elementary schools, and four of the studies presented were done in middle schools. For the purpose of this literature review, and in order to avoid repetition, we will focus our discussion first on the elementary studies, and then on the middle school studies.

Vaughn et al. (2001) cited four studies conducted in elementary schools implementing CSR with third, fourth, and fifth graders. The researchers measured the following variables: 1) teacher implementation of CSR strategies; and 2) student usage of four CSR strategies including a) preview and predictions; b) click and clunk; c) get the gist; and d) wrap-up. Teachers participating in a morning or all day seminar on CSR, and asked to implement the strategy two to three times a week. The process included the teacher presenting the four CSR strategies to the whole class, teacher and student demonstrations of the model, and applying the model when students had proficiency in the technique. During the intervention phase for the third grade mixed ability class, there was no control group. However, in the fourth and fifth grade groups, the researchers claim that students in the experimental group made higher gains in comprehension than in the control group. They based their assertion on post-test results from the Gates-MacGinitie Reading Comprehension Test (Gates-MacGinitie; MacGinitie & MacGinitie, 1989). While the study sounds good, there was no evidence of reliability, and no inter-observer agreement mentioned at any point in the paper.

The studies implemented by Vaughn et al. (2001) in the middle school CSR intervention with sixth and seventh graders included a yearlong intensive collaboration with the researchers and the teachers with a one year follow-up. Teachers were trained in the strategy in an all-day workshop and then were provided with on-going support through out the year in the Vaughn, Hughes, Schumm, and Klingner (1998) study. It was determined that out of the seven teachers in this study, three of them implemented CSR with high levels of accuracy, one with a low level, and three with consistently low levels. There appeared to be some barriers to teacher implementation of CSR. Teacher concerns focused on the amount of time it took to implement the CSR strategy, specifically citing time concerns related to the high stakes achievement tests they needed to prepare their students to take. Additionally, some teachers reported they were not comfortable with cooperative learning who tended to be the more traditional teachers.

This particular study allowed the researchers the opportunity to refine CSR with the help of teachers implementing CSR. They developed learning logs for each group participant, added the

chart for “What I know, what I want to know, and what I learned” (K-W-L; Ogle, 1986), and devised various methods to encourage turn taking with students in the group.

Similarly, there was a six-month study implementing CSR in a full inclusion middle school setting for students with mild disabilities. Like the study mentioned previously, teachers attended an all day seminar on CSR, were given materials for CSR, and had time as teams to develop implementation plans using three intervention strategies. The intervention strategies used to aid in comprehension included CSR (Klingner & Vaughn, 1996); Word Identification (Lenz, et al., 1984); and Partner Reading (Delquadri, Greenwood, Whorton, Carta, & Hall, 1986). Measures of oral reading fluency after intervention phase improved in all three groups, and significant gains were made in comprehension and word identification. However, it became apparent that some students had such severe reading deficits, that it was almost impossible for regular education teachers to aid them in specific content area learning. Researchers asserted that these students in particular, appeared to require additional special education supports to increase their academic achievement.

The following year at the same middle school, researchers implemented another CSR study. The teachers attended a morning workshop, and then were asked to implement the CSR strategy two to three times a week in the intervention phase. An added component of this study included weekly support meetings for the CSR implementing teachers. Overall findings indicated that CSR improved reading outcomes for students based on the number of students who passed the high stakes testing increasing from previous year. All of the studies seemed sound, but there was no evidence of reliability, and no inter-observer agreement mentioned at any point in the paper for any of the studies reviewed.

Two studies that documented long term implementation of CSR. Klingner, Vaughn, Hughes, and Arguelles, (1999) described how the researchers trained and supported teachers in the implementation of CSR. Subsequently, a three-year period, they studied if and how teachers implemented CSR, including influences on practice. Klingner, Vaughn, Arguelles, Hughes, and Leftwich (2004) compared five CSR intervention schools with five control schools.

The teachers in the three-year study received intensive professional development in CSR over a year long period. The variables focused on the way in which teachers adjusted instructional strategies to accommodate research based practices in their daily routines in the classroom. For the purposes of the study, the following criteria were set: 1) all participants were volunteers in the study; 2) only limited concrete practices were taught; 3) opportunities to explore and practice the strategies were provided; 4) on-going coaching was offered in the classroom by research team members; 5) demonstration lessons were conducted in the classrooms; and 6) support meetings for teachers implementing CSR were held regularly. A cohort of seven general education and five special education teachers participated in the study. They were asked to implement CSR for a nine-week period during the intervention phase. In the follow-up/ maintenance phase, which was the next nine-week period, they continued to be monitored, but implementation was not required. Data was collected about implementation through the use of both qualitative and quantitative measures. Such measurement techniques as group interviews, Likert scales, classroom observations, Intervention Validity Checklists, a specially designed Facilitators and Barriers Checklist, and individual interviews were used in this study. Some charts provided information about qualitative aspects of the study like the relationships between teacher education and certification, levels of CSR implementation, and teachers’ opinions about the best way to

implement the strategies, as well as barriers to implementation. Based on the findings, the greatest barrier to CSR implementation was the demand to meet high stakes testing mandates. As with previous studies in this literature review, the study seemed sound, but there was no evidence of reliability and no inter-observer agreement. Additionally, the results appeared qualitative in nature, due to the heavy reliance on teacher feedback.

Klingner, Vaughn, Arguelles, Hughes, and Leftwich (2004) compared five CSR intervention schools with five control schools. Background information related to this study includes: a) a student population in all of the schools were from 92% to 97% Hispanic; b) an estimated ESL population of 25.6% to 51%; and c) 76.1% to 83.9% of students were on free or reduced lunch. Additionally, schools in this district were moving from whole language instruction to a more flexible approach to literacy. Lastly, this was the first year in which teachers implemented the high stakes Florida Comprehensive Achievement Test (FCAT). According to researchers, teachers were under substantial pressure to have their students pass the FCAT, and rumors were running high on the implications of FCAT results. The five teachers chosen to implement CSR attended a one-day workshop on CSR, seeing it modeled and practicing it. Thereafter, they were asked to implement the strategy twice a week. Researchers observed CSR implementation, documenting with implementation validity checklists, and provided constructive feedback afterwards. Control teachers were asked to teach how they would normally teach, and they were observed on at least three occasions. Control teachers tended to read vocabulary or text, and give many projects. For student measures, researchers used the Level 4 Gates McGinitie comprehension section which had a reliability of .85. Researchers also assessed students using a prompted-think aloud strategy. Teacher measures included the use of observations/ notes, video tapes, and implementation validity checklists. Teachers kept a CSR log to document the frequency of CSR usage in the classroom.

The data analysis in this study included a teacher measure which used random selection by researchers of selected transcripts to determine themes, and descriptive tables for each measure. For the prompted think-aloud, there was a rubric, scored by four researchers with an inter-rater agreement of .95. Additionally, researchers used SPSS 9.0 to analyze the data set. Outcomes for the student measures showed statistically significant comprehension gains in CSR classrooms, as compared to the control classrooms. This study shows reliability based on the level of interrater agreement for student measures, and the significant .85 rate of reliability for the McGinitie comprehension test. According to researchers, students in the CSR group showed greater gains on the McGinitie comprehension test, the overall effect size was reported low (.19; Cohen, 1988), but the effect sizes were higher for students with learning disabilities (.38) and ESL students (.51).

Vaughn, Chard, Bryant, Coleman, Tyler, Linan-Thompson, and Kouzekanani (2000) examined fluency and comprehension for third grade students in regular classroom settings in two elementary schools when teachers were trained in and implemented CSR and Partner Reading (PR) (Fuchs, Fuchs, Mathes, & Simmons, 1997) strategies in a 12-week program. At one elementary school, teachers used CSR, at the other they used PR. Teachers were asked to use the strategy two to three times per week, and they were also asked to keep bi-weekly logs describing implementation days. Researchers visited the classrooms weekly offering coaching, modeling, and feedback to teachers.

Measurements for this study included the Gray Oral Reading Tests-3 (GORT-3) (Wiederholt & Bryant, 1992) and the Testing of Reading Fluency (TORF) (Children's Educational Services, 1987) were administered as a pre-intervention assessment during the baseline, and as a post-intervention the intervention assessment. Teachers were evaluated with implementation validity checklist, modified from a previous study to show typical teacher and student behaviors if either CSR or PR were being implemented correctly. Neither the CSR group or the PR group showed gains in comprehension or reading accuracy, but the rates of correct words read per minute increased. As in many of the studies examined for this literature review, the study seemed sound, but there was no evidence of reliability in general. Although the instruments used to measure comprehension and reading ability were reported as reliable. There was no indication of any attempt at inter-observer agreement mentioned, so information gleaned from the implementation validity checklist could be called subjective since it was completed by only one observer.

Conclusions

CSR alone, and in combination with other strategies, appears to make a difference in levels of reading comprehension and fluency for most students. As with any learning strategy, it is not possible to meet the needs of all students, since student ability and learning styles differ. In the current educational climate, reading fluency and comprehension will continue to be a goal for most educators. The realization that reading comprehension is intimately connected with content learning has made an impact in the way we teach. Many teachers understand that in order to teach their subjects, students must be taught to understand the accompanying textual information.

It appeared that in most of the studies, about half of teachers implemented CSR at high rates of treatment integrity, and the students of these teachers showed obvious gains for the most part. However, there were some students who required more intensive reading strategies, especially as it relates to developing comprehension. This literature review makes it clear that most students benefit from the implementation of CSR strategies.

The question arises, based on the series of studies explored by Bremer et al. (2002), do some students benefit more than others when CSR is implemented? Bremer et al. (2002) examined comprehension and reading fluency gains for ESL students as compared to students with LD in different settings when the CSR strategy is implemented. The general finding is that reading fluency increases for students with LD, but comprehension is generally unaffected. However, for ESL students, both reading comprehension and reading fluency shows gains after the CSR intervention. These findings merit further investigation.

Research Question

These studies raise the question: Do English Second Language (ESL) learners show higher increases in reading comprehension and fluency from Collaborative Strategic Reading techniques compared to students with learning disabilities (LD)?

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Effect of Storybooks on Reducing Conflict in Preschoolers' Classroom Behavior

Jorine Voigt

Children engage in conflicts frequently throughout early childhood. Therefore, children must learn how to deal with these conflicts in an appropriate manner. Conflict resolution training can help children learn how to settle their disputes through peaceful means rather than through physical fights, threats, or verbal abuse. Children will encounter various conflicts throughout their life. A certain amount of conflict is a positive and acceptable part of a child's social development (Field, 1996). In order to resolve conflicts, children need a variety of skills. First, children need the ability to take the perspective of others (Stevahn, Johnson, Johnson, Oberle, & Wahl, 2000). Conflicts involve more than one person; therefore, in order to understand the conflict and resolve it, children need to be able to take the views of all participants into account (Carlsson-Paige & Levin, 1992). Another skill children need to have when resolving conflict is the ability to understand cause and effect. In order to understand a conflict, children must be able to identify what led up to the conflict and how each action affects the other person (Carlsson-Paige & Levin, 1992).

It is important for children to understand these different conflicts and know different types of strategies they can use to solve these conflicts. Children must learn how to deal with conflicts in order to become successful members of their classroom community (Carlsson-Paige & Levin, 1992). Conflict is common among young children, and many factors make it hard for adults and children to resolve conflicts. The ability to manage conflict effectively is necessary to the development of social competence (Iskandar, Laursen, Finkelstein, & Frederickson, 1995). Conflict is defined as "mutual opposition or disagreement between two individuals" (Iskandar et al., 1995, p.360). Rende and Killen (1992) describe conflict as children's "blind desire for their own wishes to be carried out" (p.551).

There have been numerous studies conducted on how to implement conflict resolution training in an early childhood classroom. The articles used in this paper were identified by using Wilson Web. I entered keywords such as conflict and children and list appeared. I examined the articles to see which ones corresponded with my topic of interest.

The following studies have also questioned the role of the teacher. According to Bayer, Whaley, & May (1995), teachers are often more concerned with mainstreaming peace in the classroom rather than helping children learn how to maintain the peace themselves. Instead, teachers should promote children's acquisition of conflict resolution skills to negotiate conflicts. Many teachers try to stop children's disputes, when in fact; they should help children negotiate conflicts themselves (Bayer, Whaley, & May, 1995). According to Field (1996), the role of the teacher is to assist children in finding their own solutions to personal conflicts. Teachers should teach children the following steps for resolving conflicts. First, the children involved in the conflict must identify the problem. Next, the children must generate solutions through negotiation and compromise. Finally, they must follow through with mutually agreed-upon solutions (Field, 1996).

Research also suggests the effectiveness of teaching children conflict resolution strategies through storytelling (Carlsson-Paige & Levin, 1992; Field, 1996; Luke & Myers, 1995; Pappas, 1997). Children's literature is an effective resource for teaching conflict resolution and peace (Luke & Myers, 1995; Pappas, 1997). Children's books help children understand conflicts they encounter

in everyday life in a variety of ways. According to Pappas (1997), storytelling through the use of children's books helps reduce aggression in young children and enables them to communicate their emotions in more effective ways. Research suggests that children are able to transfer the skills learned through storytelling in real-life contexts. For example, children will often incorporate the situation found in the story into their play and mimic it. This makes the situation or conflict real for the child. As a result, the child is able to make sense of the situation and use it in his/her own words and actions. Children build upon these experiences and develop appropriate strategies for resolving conflict (Pappas, 1997).

Takatsuji (2002) examined the construction, reliability, and validity of a scale concerning a teacher report of preschool children's resilience in their daily life. Teachers rated their 289 preschool students (aged 4-5 yrs) concerning stressful situations on the basis of observations; adults with child-care experience rated the frequency and degree of displeasure of those situations. The construction of the resilience scale was based on situations rated as high in both frequency and degree of displeasure. Results show that the scale demonstrated acceptable internal consistency reliability and test-retest reliability. Factor analysis indicated a uni-dimensional structure for the scale. Intra-class correlations between teachers from the same class showed high stability between raters. Validity was explored through scores on a positive socio-metric test and responses to interpersonal conflict situations. Significant correlations were found between scores on the resilience scale and the 3 variables of positive socio-metric scores, degree of displeasure at a situation in which a peer broke a promise, and scores on doll play that were rated from the perspective of resilience.

Vestal and Jones (2004) reported how teachers who received training in conflict resolution were better prepared for the risk of conflict in their pre-school classrooms. The study was designed to examine whether teacher training facilitates greater conflict resolution strategies and whether conflict resolution training leads to pro-social solutions by preschoolers who are at risk for conflict and violence in their environments. Head Start teachers were trained in a 40-hour college-level course. Teachers were instructed in the theory of conflict, conflict management, and socio-emotional development in addition to following a problem-solving curriculum with their preschool students. Sixty-four children were assessed at 4 and 5 years of age. Results showed that preschoolers of trained teachers had more skills in generating solutions to interpersonal problems. Furthermore, children of trained teachers relied on more relevant solutions and fewer forceful, and thus more pro-social, solutions to solve interpersonal problems. These findings will be discussed in a framework for teaching conflict resolution and social-emotional skills to preschool children.

Nakagama and Yamazaki (2004) examined the relation between the type of apology offered by preschool children, through instrumental apologies and sincere apologies, and intimacy. The results suggested that intimacy had an influence on the type of apology used by the 6-year-olds. The 4-year-old children made instrumental apologies to children whom they were familiar with, whereas 6-year-old children gave instrumental apologies to children they were not familiar with, and sincere apologies to ones whom they knew. In addition, whether the children's apologies took account of their relationships after the apology was also examined. It was found that 4-year-old children wanted to maintain good relationships with children they were familiar with, and gave them instrumental apologies, whereas although 6-year-old children wanted to maintain good relations with others, whether or not they were familiar with them, they gave instrumental apologies to children whom they were not familiar with, and sincere apologies to those whom they knew.

Thornberg (2006) on the other hand examined whether the peer conflict strategies of preschool children are situated and therefore vary across different conflict situations. Hypothetical conflict interviews were administered through a series of puppet shows. Participants were 178 preschool children. Results indicate that preschool children's conflict management skills are situated in peer conflict, because their strategies are to a greater or lesser degree influenced by the opponent's strategies. When the opponent's conflict strategy is non-aggressive, aggressive conflict strategies are atypical and low in frequency. When the opponent behaves with physical aggression in the conflict situation, most of the subjects respond to this aggressive conflict strategy with physical aggression. The findings confirm neither a static individual view nor a situated determinism, but a situated action view in which both individuals' cognitions and distributed cognitions interact.

Clayton, Ballif-Spanvill, and Hunsaker (2001) found that because the prevalence and severity of youth violence have risen, so have programs aimed at preventing such violence. They reviewed 30 programs categorized as antiviolence, conflict-resolution, or peace programs, based on goals, target skills, and theoretical constructs. Through empirical evaluations, they designated programs as either promising or effective. After considering the unique aspects of each program, the researchers outlined five criteria to guide selection of the best violence prevention programs for addressing theoretical foundations, comprehensive skills, diverse populations, teacher training, and children's self-worth.

O'Brien, Roy, Jacobs, Macaluso, and Peyton, (1999) studied 184 3-yr-old children in dyadic play, and the 287 conflicts that occurred during their play were transcribed and coded. Results show that, in general, children's conflicts arose in the context of ongoing play and were brief, lasting less than 15 seconds. Most disputes concerned toy possession, and almost 80% were ended by the simple withdrawal of 1 or the other child from the conflict. When children responded with emotional intensity to conflict, their conflicts lasted longer and were more likely to be followed by continued negative interaction. Individual difference data were available for one member of each dyad observed in play. Children rated in infancy as having difficult temperaments were found to be more intense during conflict, to spend more time in conflict, and to score higher on an index of conflict resolution competence, whereas concurrent social behavior was not related to conflict variables. Girls scored higher than boys on competence at conflict resolution, and children with better language skills spent less time in conflict. The more time children spent in non-maternal child care up to age 3, the less likely they were to initiate conflict. Removing a child from a play group is not the answer.

Goldstein and Thieman (2000) investigated the effects of a visually mediated intervention (i.e., social stories, written social phrases, pictures of social skills, and videotaped feedback). A multiple baseline design across triads and social behaviors revealed that visually-mediated intervention was effective in increasing the frequency of specific social communication skills for the five focus children. Participants were five children with social and language impairments and 10 typical peers from a local elementary school. The findings support recommendations for using visually-cued instruction of social stories to guide the social development of children with pervasive development disorder. This intervention was effective in teaching social skills necessary for participation in conversations and positive social interactions with peers in inclusive settings. Identifying effective social interventions in early elementary grades may significantly impact a student's ability to develop friendships and engage in successful classroom or extracurricular social

activities across the school years. The authors reported that not only did all 3 participants' conversational speech improve, but also new skills generalized to different settings and social partners.

Research Question

Overall, the studies provide preliminary evidence of the potential benefits of using visually-cued instruction to improve social communication of young children with social impairment regardless of developmental or cognitive exceptionalities. Based upon this review of the literature, more investigation is needed to determine the effectiveness of combining different types of visual stimuli to improve social relationship among elementary students with social impairments and peers without disabilities. Therefore the research question to be addressed is:

Do storybooks reduce conflict in pre-schooler's behavior?

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SYSTEMS CHANGE

Impact of Strategies to Decrease the Disproportionate Rates of Referral of Elementary African American Students to Special Education

Delsue Frankson

Minority students are overrepresented in special education, especially African Americans. Most referrals to special education are made during the elementary school years. A lot of them are referred to special education because of behavior or reading difficulties. I believe that when teachers implement early intervention techniques, the number of minority students referred to special education can be reduced. I believe that early intervention implementation is the key. There is not enough known about the extent to which teachers actually implement interventions following consultation for improving minority students.

Single Subject Design Research Essential in Identifying Interventions

Noell and Gresham (2001) wrote about early intervention paired with single subject design research and how they can help to identifying which interventions are effective or ineffective for behavior and reading difficulties. Student learning, behavior, and/or emotional problems frequently results in a series of interventions being implemented over a period of time. Change or the absence of change in the student's behavior may necessitate a new intervention or revision of the initial one. Additionally, variations in the accuracy of treatment implementation or treatment integrity (Peterson, Homer, & Wonderlich, 1982) can unintentionally create a series of treatments that are implemented sequentially.

Noell and Gresham (2001) describe the multiple baseline variant for the comparison of two or more treatments. The design extends available single subject methods for comparing treatment by avoiding the reversibility of effects requirement (multi-element designs) and the independent equal difficulty responses (parallel treatments design) requirements of currently available methods. The MBL-MS consists of two or more interlaced multiple baseline designs that consist of all possible sequences of two or more treatments. The MBL-MS permits evaluation and comparison of treatment effects for each treatment of the initial phase following baseline. The sequencing component of the design resulted in all treatments being applied to baselines and permitted observation of sequence effects. Sequence effects, was the main experimental question or contributed to conclusions drawn from the data regarding the relative effectiveness of the treatments. Noell, Gresham, and Frank (2001) stated that the MBL-MS design may be well suited for the comparison of differing methods of establishing a skill when the treatments take a period of time to produce optimal responding, such as skill training, or when no maximal level of responding can be identified.

Consultation Procedures on Implementation of Behavior Management Intervention

Noell, Duhon, Gatti, and Connell (2002), conducted a nonconcurrent multiple base design across participants was used to evaluate the impact the consultation procedures on teacher implementation of the behavior management intervention. This was used because it allowed services to be provided to teachers and students as concerns arise, rather than requiring

intervention to be delayed until a sufficient number of cases are simultaneously available. The intervention was developed with the teacher prior to implementation of the in class training day. All of the necessary materials were provided to the teacher, and the teacher committed to the intervention. The materials provided to the teacher included a typed copy of the plan, behavior monitoring forms, and a reward box that contained items that the student selected from the reinforcer survey (Noell et al., 2002).

The study examined general education teachers' implementation of behavior management interventions following consultation. The subjects were eight elementary schools referred for consultation and intervention due to disruptive behavior in the classroom. The performance feedback resulted in high stability of implementation. The implementation remained generally high, but was somewhat less stable. Teachers rated the consultants positively and students' behavior changing in the desired direction. Observations prior to and after intervention supported teacher ratings.

Treatment Validity as a Framework for Identifying Learning Disabilities

Fuchs, Fuchs, and Speece (2002) studied the issue of treatment validity as a framework for identifying learning disabilities. The design applied was an alternative treatment design. A review of the components of this model was conducted and reconsideration of the advantages and disadvantages of verifying a special education program's effectiveness prior to placement was taken into consideration.

They assessed the treatment validity of the model, which consisted of four phases. Phase I assessment was used to determine whether the overall rate of responsiveness in the classroom indicated that the instructional environment was sufficiently nurturing to warrant student decisions. If the mean rate of growth in the classroom was low when compared to other classrooms in the same building, district, or in the nation, then the appropriate decision was to intervene at the classroom level to provide a stronger instructional setting. Once the general nurturing regular classroom instructional environment was established, Phase II assessment was used to identify children with dual discrepancies. The students whose level of performance and rate of improvement are dramatically below those of classroom peers.

In Phase III, assessment generated the database for enhancing instruction in the general educational classroom and determining whether that regular educational setting can, with adaptations, produce better growth and be transformed into an acceptable learning situation for the individual. Only when corrective action failed to yield improved growth does consideration of special services to supplement the general education program become warranted. In Phase IV, assessment evaluated special education effectiveness for a given student. If special education effectiveness for that child cannot be documented, no compelling rationale existed for assigning a specific learning disability label or removing the child from the classroom for instruction. However, this last phase in the model has been known to generate controversy.

The authors reported an example of the treatment validity model at work to determine learning disability using Curriculum Based Measurement (CBM) to track the progress of a fictitious second grader, Jose. The article showed a good example of a very effective intervention strategy that should be used by elementary teachers that are referring students to special education. The

study stressed the importance of looking at the classroom environment and checking for antecedents before jumping to conclusion about special education services.

The model stated that the person or persons making recommendations examines the level of a student's performance as well as his /her responsiveness to instruction. They also had to reserve their judgment about the need for special education until the effects of individual student adaptations in the regular classroom have been explored, and before placement verifies that a special education program enhances learning. The authors state that, over the 25-year history of the individuals with Disabilities Education Act, the percentage of students with learning disabilities has increased dramatically so that the students with learning disabilities now comprise more than 50% of all children with disabilities (Fuchs et al., 2002). This major increase in the prevalence of disabilities raised questions about the methods by which these children are identified. One of the limitations was the subjectivity of the research. One of the major concerns that brought about public awareness is the high cost of special education. The next concern is the overrepresentation of students of color in special education. The authors spoke about using a treatment-oriented approach to identify and to eliminate the inequity potentially associated with overrepresentation of minority students in special education by maximizing regular education's potential effectiveness for all students and reserving judgment about the need for special education until the effects of individual adaptations in the regular classroom have been assessed and until evidence verifies that a special education program enhances learning.

Study of Curriculum-Based Measurement

Fuchs and Fuchs (2002) studied Curriculum-Based Measurement (CBM) describing competence, enhancing outcomes, evaluating treatment effects, and identifying treatment nonrespondents. They summarized research on curriculum-based measurement within four strands. They provided an overview of studies demonstrating the psychometric tenability of CBM, comparing CBM to traditional psycho-diagnostics like WCAT. They discussed how teachers can use CBM to inform instructional planning. They examined CBM's potential use in evaluating treatment effects. They summarized work on CBM for the purpose of identifying children who fail to profit from otherwise effective instruction.

The curriculum based measurements are composed of methods for indexing academic competence and progress. The goal in developing CBM was to establish a measurement system that teachers could use effectively to obtain accurate and meaningful information with which to index standing and growth. The next goal was to answer questions about the effectiveness of programs in producing academic learning and plan better instructional programs. To accomplish this goal, a systematic program of research, conceptualized as a 3x 3 matrix (Deno & Fuchs, 1987) was undertaken. The rows of the matrix specified questions for developing a measurement system, like what to measure, how to measure, and how to use the resulting database. The columns provided the criteria for that answered those questions. They questioned technical adequacy, treatment validity, and feasibility. The twenty-year research program was undertaken by independent investigators at multiple sites who addressed the cells in the matrix, with multiple studies for reading, spelling, mathematics, and written expression.

The researchers used an alternate treatment design. In each academic area, CBM integrated key concepts from traditional measurement theory and the conventions of classroom based observational methodology to forge innovative approach to assessment. Every assessment sampled a relatively broad range of skills by sampling each dimension of the annual curriculum on each weekly test. Each repeated measure was an alternate form of difficulty, assessing the same constructs. By sampling broadly with standardized administration and scoring procedures, the CBM score was viewed as a performance indicator. The practitioners used the performance indicator to identify discrepancies in performance levels between individuals and peer groups, which helps inform decisions about the need for special services or the point at which decertification and reintegration of students with disabilities occur.

Unresponsiveness to Early Literacy Programs

Characteristics of children who are unresponsive to early literacy intervention were researched by Fuchs and Otaib (2002). In the study, the children ranged from preschoolers to third graders and were at risk for reading disabilities. The treatment targeted early literacy. A majority of unresponsive students had deficits in phonological awareness. The additional characteristics included phonological retrieval or encoding deficits, low verbal ability, behavior problems, and developmental delays. The purpose of the review was important because identifying child characteristics that predict unresponsiveness to treatment could improve screening measures and the selection of most appropriate children for early and intensive intervention.

Consultation Leading to Intervention

Noell and Witt (1999) raised a very interesting point about consultation leading to intervention. They stated that for consultation to result in the delivery services to students, it must lead to implementation of an intervention. They said that intervention implementation is the crucial challenge for the practice of consultation, and as a result, there is critical research needed in this area. They said that too little is known about the extent to which teachers actually implement interventions following consultation, opposed to what they say about implementation, because it has infrequently been directly measured. They said that there is an obvious need for special education teachers to assist the general education teachers in effecting changes in children within the general education environment. I agree because special education teachers are taught a variety of strategies that are not taught to the general education teachers. Some general education teachers were not taught effective classroom management strategies, and therefore they had a difficult time managing their classrooms. If we collaborate with each other there is a lot that can be learned and accomplished.

Research Question

Research shows that positive early interventions can reduce the number of students referred to special education. I would like to propose a study on the impact of strategies to decrease the referral of elementary-age African American students to special education. I believe that if a model like the treatment validity model along with using an alternative treatment design were used in the classroom to measure curriculum that is being taught, we would have fewer African American students being referred to special education during elementary school.

The purpose of a future study is to implement positive interventions and measure the impact on disproportionality of elementary-age African Americans in special education. The overall goal is to reduce the number of elementary-age African American students being referred to special education. A question for further research that is derived from the review of the literature is: Will applying effective academic intervention strategies before the referral process decrease the number of elementary-age African Americans students being referred to special education for services?

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Prereferral Intervention Strategies to Decrease Overrepresentation of Minority Students in Special Education: A Literature Review

Cheryl White-Lindsey

The number of students referred to Special Education has ascended to an increasingly high rate over the last decade. According to U.S Department of Education Office for Civil Rights (1998) statistical data approximately 1.5 million children were identified as having mental retardation, emotional disturbance or a specific learning disability. Fierros and Conroy (2002) report that once identified, students of color, especially African American and Latino/Hispanic students, are more likely than Whites to be placed in restrictive educational settings. As a result of the number of minority students disproportioned in special education programs a need for intervention strategies is warranted in order to decrease the number of minority students placed or identified into a special education program.

The proportionately higher incidence of minority children identified as having a disability and those being referred to special education comes without saying that other factors such as socioeconomic levels, race and ethnicity remain significant in placing students in these programs (Losen & Orfield, 2002). However through research practices a system of supports dedicated to providing alternative or pre-referral strategies is necessary to decrease the numbers of African American, Latino/Hispanic and other minorities being overrepresented in schools.

Prereferral Intervention and Its Components

Prereferral Intervention has been in existence since the 1970s with studies that lay the foundation for further research in the area of prereferral interventions. Chalfant, Pysh and Moultrie (1979) researched the impact of on Teacher Assistance Teams affects on referrals for special education and McKenzie, Egner, Knight, Perelman, Schneider and Garvin (1970) described how trained consulting teachers could assist elementary teachers in the management of educating handicapped children. These landmark studies lacked the specificity and notion of taking into account factors such as race, gender, socioeconomic status, motivational level and academic ability of children with cultural differences. As proposed by Fuchs, Fuchs, Bahr, Fernstrom, and Stecker (1990) prereferral intervention is defined as a teacher's modification of instruction or classroom management before referral to better accommodate a difficult-to-teach (DTT) pupil without disabilities. Therefore, prereferral strategies aim to prevent students from being referred to special education programs.

Current research on the topic of prereferral strategies has been elevated to include identifying the needs of minority students who are minorities, as well as those culturally and linguistically disadvantaged. Garcia and Ortiz (2006) researched key elements that would assist in preventing disproportionate representation for those students. Although not considered a single subject design, the qualitative article gives a foundational example of the necessary components for a single subject research project that focuses on and provides assistance in designing a program of prereferral components to reduce overrepresentation of minority students in special education. Rather than feeding into the idea that more programs are needed to teach students with disabilities, a prereferral system of supports (interventions) can be used to deter the number of referrals written for minority students not yet "labeled" or "identified" as disabled.

Garcia and Ortiz (2006) created four key elements necessary when attempting to design a program geared toward preventing disproportionate representation of minority students in special education; a) Identifying the unique differences between cultures, when designing learning communities take into consideration the social, familial, linguistic, and ethnically related practices in "their" world; b) creating early intervention school wide practices that is focused on proactive measures rather than reactive practices.; c) incorporate diagnostic/prescriptive teaching components such as teaching skills, re-teaching and informal assessments along with consistent examination of data to monitor students progress, and d) have available general education problem-solving support systems in place such as consultative teams, teacher assistance teams (TAT) or alternative programs and/or services. These elements are important in creating a "model" in which the critiques of the articles within the review of the literature will be provided.

The current research on the topic of prereferral and/or intervention was by far difficult to obtain, due to a lack of single-subject research in the area. Throughout the review of the literature I was able find articles on prereferral interventions using terms such as academic intervention, intervention, prereferral strategies, assistance teams, single subject, criterion design, multiple baseline and alternating treatment design in a variety of combinations. The research revealed several articles that fell under two basic categories: 1) Consultative models of intervention (e.g., Noell & Witt, 1999; Gravois & Rosenfield, 2006; and Fuchs, et. al., 1990), and 2) Strategies that can be used as prereferral components (e.g., Miao, Darch & Rabren, 2002; Bahr, Walker, Hampton, Buddle, Freeman, Ruschman, Sears, McKinney, Miller & Littlejohn, 2006; and Mortenson & Witt, 1998).

Several of the articles used group experimental design and/or statistical analysis and thus failed to identify functional relationships between the behaviors and the interventions. However, the articles selected support the need for single subject research in the area of prereferral intervention in preventing disproportionality of minority students in special education.

Consultative Models of Intervention

Noell and Witt (1999) described the extensive components of consultation and collaboration in educational contexts across various research studies. The analysis that the article stated were examples of usable operationally defined procedures for collaboration and consultation, which is necessary in ensuring that consultation meets the student's needs and the critical research needs. In addition the intervention implementation has an outcome that can be directly measured and subjected to an experimental study for students who were labeled "at risk". Consultation as operationally defined by Noell and Witt (1999) requires the use of scripts (Fuchs, et. al., 1990) and checklists (Sheridan, Kratochwill & Elliot, 1990). Through the operational definition researchers are able to maintain and provide data regarding the accuracy of consultation implementation. Measuring the independent variable (consultation) has included the measurement of specific consulting behaviors such as feedback (Noell, Witt, Gilbertson, Ranier, & Freeland, 1997) and interview goals. From these variables Individualized Education Programs (IEPs), Section 504 accommodation plans, or prereferral plans may be implemented.

Collaboration in relation to intervention is an area that seeks to answer questions yet undiscovered or answered. Due to the nature of the practice of collaboration it does not lend itself to an operationally defined set of words because an unbiased observer may not know if a

consultant is being collaborative, however, Noell and Witt (1999) have sought to design a guideline for measuring the practice. Traditionally collaboration includes a non-hierarchical interchange between colleagues, shared responsibilities, and freedom to accept or reject. Moreover, collaboration has been operationalized by Erchul & Chewning (1990) by comparing the number of times the teacher was able to successfully control the conversation versus the number of times the consultant controlled the conversation which in turned was labeled as a continuous variable rather than a dichotomy between collaborative and expert approaches. As a result studies that involved face-to-face verbal interactions have been correlational when coded after the interaction leading to the development of a hypothesis. Further research is necessary for consultation researchers to test those hypotheses and provide an operational definition of collaborative consultation that has some degrees of content validity, is measurable, and is able to be manipulated.

Fuchs et al. (1990) provided a model for treatment implementation and how it could be studied within consultation. An operational definition of consultation at a procedural level is offered. Direct measurement of treatment implementation can provide an empirical basis for relating specific elements for intervention implementation. The effects of three inclusive models of Behavioral Consultation (BC) on problem behavior of students in mainstream classrooms were studied in an effort to develop an effective approach to prereferral intervention. The subjects included were 43 general educators, 43 difficult-to-teach students (without disabilities), and 12 school consultants, representing seven inner-city middle schools. Teachers and students were assigned to three BC groups: the least (BC 1), where problem identification and problem analysis occurred and the consultant provided no assistance in the implementation of the intervention nor evaluated the intervention effects in a formative fashion; more (BC 2), where problem identification, problem analysis, and plan implementation were offered, in addition, the consultant made a minimum of two classroom visits where the consultant observed and provided corrective feedback, however, no formative evaluation occurred. In the third group, most (BC 3), incorporated the first three stages (problem identification, problem analysis, and plan implementation), as well as required consultants and teachers to formatively evaluate the intervention effects. All three groups involved inclusive variants of BC, and there was a control group. Observations were conducted during pre-intervention, post-intervention, and follow-up phases.

Measures and data collection procedures included fidelity of treatment assessed by interval recording and product inspection, teacher-student contracts were completed on a monitoring sheet in which calculation of the percentage of intervals during the target behavior occurred. Product-inspection forms included (a) the product (e.g., math worksheet), (b) the number of minutes permitted for work completion (duration), (c) the quantity, and (d) a record of actual performance. In addition, observations, teacher ratings, revised behavior checklist, debriefing interviews and questionnaires were collected.

The results showed that the more inclusive versions of BC 2 and BC 3 promoted more positive student change than BC 1 (least inclusive). In comparison to difficult to teach students in BC 1 and control groups, BC 2 and BC 3 significantly reduced initial discrepancies between themselves and their peers regarding problem behavior. The data also showed that students and teachers in BC 1, BC 2, and BC 3 implemented the interventions with similar frequency, thoroughness, and accuracy, and strengthen the conclusion that group differences in difficult to teach students' classroom behavior and their teachers' perceptions of conduct disorders were due to variations in the consultation process, not qualitative or qualitative differences in classroom

interventions. From these results, preliminary validation of the BC model was confirmed and its integrity was upheld by the central assumption that its components are important and related. One limitation is that the prereferral intervention process showed little distinction of the teacher-consultant teams in BC 2 and BC 3, which then only compared BC 1 to the two. Fidelity of implementation was enhanced by the presence of graduate students providing technical assistance, the prescriptive nature of the assistance teams, and the subjects' selection by the consultants.

In accordance with consultation teams, Gravois and Rosenfield (2006) analyzed the impact of implementing instructional consultation teams (IC Teams) on the disproportionate referral and placement of minority students into special education was investigated. Based on the key elements discussed earlier by Garcia and Ortiz (2006) this study took into consideration cultural variables (cultural differences, language, teacher perceptions), bias in assessment procedures, quality of instruction and intervention services in the development of the IC Teams. These consultative team models create and maintain student success within the general education environment by supporting the classroom teacher. Through the delivery of instructional consultation focusing on the content (i.e., curriculum-based assessment) and the process (i.e., data collection) quality instructional and management programming, along with the student's level of ability will increase student success, reduce behavioral difficulties, and avoid the need for special education evaluation and placement (Gravois & Rosenfield, 2006).

From a total of 22 schools, located in five districts in a mid-Atlantic state, some in which were located in rural communities and/or small cities, thirteen schools were selected by their district administration to participate in a 2-year training consortium to implement IC Teams. The nine remaining were not involved in the IC model. Data were collected on student population and referral by school and district personnel prior to project to establish the baseline, and again each June of each subsequent year. Data were calculated and analyzed using three common indices. Risk index showed 3.3 at baseline and descended to 1.9 for IC team and 5.2 to 4.3 for comparison group. Odds ratio showed the IC teams were 1.38 time more likely to be evaluated and 1.53 times more likely to be placed in special education when compared to non-minority peers. In addition, IC teams schools at baseline at (OR=1.53) and 2-year data (OR=0.66). The composition index used to analyze the proportionality of students in special education compared to the proportion of a particular group within a category yielded that effective early intervention support to teachers reduces disproportionate placement of minority students in special education.

The limitations of the study suggested that random assignment of schools to treatment and control conditions caused the causal link between the application instructional practices and the referral placement patterns. In closing, this study described IC teams (a particular model of intervention services) and compared its impact to existing prereferral models in schools in order to decrease the number of minorities referred to special education.

Strategic Prereferral Components

Single subject research is important when seeking a functional relationship between one's behavior and an intervention. Consultative models of prereferral intervention are important aspects of a system of supports, yet are difficult to collect finite pieces of data. Systems of support in

relation to prereferral intervention must be comprised of strategies aimed toward students with cultural, academic or social behavior challenges in order to meet the needs of every child.

Yu Miao, Darch, and Rabren (2002) studied the effectiveness of precorrection strategies in teaching decoding skills to students specifically with learning and behavior problems were observed. The subjects included six students with learning and behavior problems from a public school in Alabama who were randomly assigned into three instructional groups. A multiple-baseline single subject method was used for the duration of the study, 21 days. The primary teaching method was Direct Instruction (DI) which involved explicit problem solving, mastery teaching, correction procedures, scaffolding and remediation (Tarver, 1996). The independent variable for this study was the application of a precorrection strategy. During the treatment phase, precorrection was added to evaluate the effects of precorrection on accuracy in reading acquisition, retention, and on-task behavior. The dependent variables were collected across 10 instructional sessions. The dependent variables used in this study were 1) percentage of correct responses (sounds and words), 2) maintenance tests of the percent correct of reading words and 3) the percentage in intervals of on-task behavior.

The results indicated that using precorrection as an intervention combined with DI teaching methodology can be an effective and efficient intervention to improve students' accuracy in reading sounds and words, and increases on-task behavior. Students in each of the three groups increased their accuracy in identifying sounds by approximately 25% during the intervention phase. The average increase across subjects was 16% correct in reading sounds. The average increase in reading words was 17%. Limitations included similar learning histories of the subjects (all 1st graders with learning/behavior problems), limited generalization and future studies need to be completed to determine the effectiveness over longer time periods.

Another evaluative study that supports the need for prereferral strategies to aid in the decreasing of the number of minority students disproportionately represented in special education deals with creative problem solving for general education intervention teams (Bahr, Walker, Hampton, Buddle, Freeman, Ruschman, Sears, McKinney, Miller, & Littlejohn, 2006). The study involved 24 general education teams in elementary schools were randomly assigned to a CPS for GEI teams or to a control group, team outcomes were tracked for one year. The quasi-experimental design evaluated the effectiveness of the creative problem solving (CPS) approach for general education intervention (GEI) identifying solutions to problems within a structured, facilitated process. Comparisons between CPS-trained teams and controls on five dimensions of school-based teams were made: type of team, length of initial team meeting, ratings perceived effectiveness, follow-up, and quality indices. Data collected from a study such as this provides another facet for designing a functional system of supports for prereferral interventions. The results indicate a statistically significant positive outcome on the length of the initial team meeting, team effectiveness, and overall adequacy of follow-up and use of quality indices. Bahr et al. (2006) reported involved a shift in the percentage of experimental teams that identified their dominant role as intervention assistance (a model designed to address student or school problems, but not limited to possibility of a disability).

Prereferral academic interventions provide a means for school personnel to effectively instruct students who are at risk for being placed into special programs through a systematic design of various strategies. It is also important to have feedback on the effectiveness of the

interventions from the students and teachers using the resources. Mortenson and Witt (1998) studied the effects of performance feedback on the implementation of a reinforcer-based classroom intervention. A multiple baseline across teachers design was used to evaluate the effect of performance feedback on treatment integrity of a prereferral intervention the extent to which a treatment is implemented as intended. The subjects were four classroom teacher-student dyads in regular education in two public schools. Students were in grades 2 through 5 and had exhibited academic performance deficits, which were determined by pretreatment assessments. Teachers volunteered who initiated a referral with the multidisciplinary team at the school. The dependent variables were levels of treatment integrity and student academic performance across experimental conditions in a multiple baseline design. A maintenance phase was additionally provided where no feedback was provided and experimental control was present. The results revealed performance feedback increased teacher implementation of a prereferral intervention in 3 of the 4 cases. Limitations in this study questioned when interventions are not implemented with integrity problems arise in the interpretation of intervention efficacy, lack of experimental control of the student's curriculum and as a result produces an ineffective prereferral intervention.

Conclusions

Though limited in scope, this review of the literature presents the argument for more single-subject research in the area of prereferral intervention, especially for students labeled "at-risk." As a result of the high rates of minority students being referred to special education a need for a systematic support intervention program is warranted in order to decrease the number multidisciplinary team referrals of minority children to special education. Prevention and early intervention are intended to prevent referral of students whose problems result from factors other than a disability (Garcia, et al., 2006). Therefore, combining consultative and prereferral intervention strategies can provide a complete system designed specifically for at-risk students to decrease their overrepresentation in special education.

Research Question

What are the effects of a multiple baseline analysis of a prereferral intervention program for African American males who are at-risk for referral into special education programs?

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Effects of Two Co-Teaching Approaches on Reading Achievement of Middle School Students with Disabilities

Deidre Marshall

The Individuals with Disabilities Education Improvement Act (IDEA 2004) mandates that students with disabilities be educated with children without disabilities to the maximum extent appropriate in the least restrictive environment (LRE). For many students in special education, this is the general education classroom. Since the enactment and implementation of the Education for All Handicapped Children Act of 1975, educational results for children with disabilities have improved (Sultana, 2001). "Florida Statutes (F.S.) offer parallel language stating that, 'Special classes, separate schooling, or other removal of exceptional education students from regular classes shall occur only when the nature or severity of the handicap cannot be satisfactorily accommodated with supplementary aids and services in the regular classroom' (Section 230.22(2)(2) F.S.)" (Florida Department of Education [FLDOE], 2005, para 1). Supplementary aids and support services may include environmental adaptation, assistive technology, peer supports, specialized instructional strategies, curricular adaptations or modifications, and collaborative teaching (FLDOE, 2005). Placement and services must be determined for each student by a team of stakeholders and must be specified in the individualized education program (IEP) (Inos & Quigley, 1995). This requires individualized examination into the distinctive educational needs of each student so that the team can determine the range of aids and support that would enable the student to be educated satisfactorily in the general education environment (FLDOE, 2005). The increased demands to educate students with disabilities in the general education setting has forced schools to look into diverse service delivery options for special education (Weiss & Lloyd, 2002).

There is a considerable increase in the percentage of students with disabilities (46.4 percent in the 1997-1998 school year) who are receiving 80 percent or more of their education in general education classrooms. School districts report using co-teaching more frequently than any other service delivery model to operate their inclusion programs (Weiss, 2004). Co-teaching fuses general and special education instruction (Magiera & Zigmond, 2005) by having special educators work with general educators to provide direct services in the general education setting (Weiss & Lloyd, 2003). Co-teaching lowers the student-teacher ratio and may reduce the stigma for students with disabilities. Co-teachers collaborate in all facets of the educational process and may also provide professional support for one another (Magiera & Zigmond, 2005). In a co-taught setting, students receive the subject area expertise of the general educator and the specialized learning strategy expertise of the special educator resulting in the research-based curricular and instructional approaches now required by the No Child Left Behind Act (Salazar & Nevin, 2005). The No Child Left Behind Act (NCLB) of 2001 aligns with IDEA in its focus on, "providing students with access to the general education curriculum, scientifically based instruction, and subsequent assessments of performance" (Weiss, 2004, p. 219). In order for co-teaching to be successful, there are several necessary elements to consider. Teachers should share roles, work loads, and responsibilities with what happens in the classroom. Teachers should make decisions together and discuss behavior, requirements, grading, and objectives before they begin co-teaching (Davis-Wiley & Cozart, 1998).

Co-teaching lends itself to several flexible options. In one teach-one assist, one teacher takes the lead in delivering instruction while the other teacher observes or drifts around the class to

monitor or assist students individually. With station teaching, teachers split the content to be delivered and each takes responsibility for teaching a component of it to smaller groups of students who move among stations. This option involves two teacher lead groups and one independent group. When teachers plan lessons together but they split the class and deliver the same lesson to smaller groups, it is known as parallel teaching. Alternative teaching is when one teacher works with a smaller group of students within the classroom. This can be for the purpose of reteaching, preteaching, or supplementing the instruction received by the larger group. The team teaching option means that both educators share equal instruction of all students at the same time (Weiss & Lloyd, 2003). To date, this reviewer could find no research to determine what the best approach to co-teaching is when it comes to student achievement.

To find the articles included in this review, key words such as *co-teaching*, *single subject research design*, *inclusion*, and *reading achievement* were used. No single subject research design articles were found for this topic but several empirical studies were found that provided valuable information. These articles are applied, socially valid, and replicable. For example, a quasi-experimental study by Magiera and Zigmond (2005) examined whether there was an “additive effect” of the special education teacher on the instructional experiences of students with disabilities as compared with the experiences of the same students taught by only the general education teacher under routine conditions using time sampling methods. Overall, interrater reliability was 98 percent and results found statistically significant differences in terms of general education teacher interaction and individual instruction. Salazar and Nevin (2005) conducted a descriptive case study where the procedures and outcomes of implementing a co-teaching initiative in an urban multicultural school were explained. Weiss and Lloyd (2003) conducted a case study where a qualitative research design and grounded theory methodology were used to document the roles and the influences on the roles of secondary special educators in co-taught classrooms. A meta-analysis of co-teaching research by Murawski and Swanson (2001) synthesized data-based articles pertaining to co-teaching between general and special education personnel and found only 6 out of 89 articles that provided sufficient quantitative information for an effect size to be calculated.

Although there have been reports of successful co-teachers who planned together, solved differences together, and instructed together, there are also reports of co-teaching partnerships in which there was a lack of understanding of responsibilities, a continuing ownership struggle, and disruptive classroom events (Weiss & Lloyd, 2003). A considerable number of teachers also believed their knowledge of co-teaching to be insufficient, but are interested in learning more (Bergren, 1997). There are significant obstacles to co-teaching noted at the secondary level including the large gap in the skill levels of students with disabilities, and the capacious nature of the content (Weiss & Lloyd, 2002).

Experimental research supporting the use of co-teaching as an apt and successful intervention is sparse, suggesting that co-teaching is a moderately effective procedure for influencing student outcomes (Murawski & Swanson, 2001). In spite of the need for supportive evidence, “educational leaders are encouraging schools to move away from a one teacher, one classroom system to adopt a team approach” (Bergren, 1997). Weiss (2004) and Murawski & Swanson (2001) agreed on the state of research as it relates to co-teaching. Studies on the practice left out crucial information concerning the measures used. Studies including teacher interviews incur potential bias because the teachers are working in co-taught settings already

considered to be successful. The foremost variable research found in the success or failure of a co-teaching program appears to be teacher's style or personality. Most studies show that both teachers do not have a clear definition of co-teaching. Few studies report or describe the actions of the special educator in the co-taught setting. Due to the designs of such research, outcomes are commonly stated in descriptive or qualitative frameworks rather than quantitative analysis.

Although research shows that there is potential for positive results in the area of achievement using co-teaching as a service delivery option, a review of the literature shows that the science that supports co-teaching to date is very limited (Weiss, 2004). None of the articles that provide sufficient quantitative information focused on students at the secondary level (Murawski & Swanson, 2001). Promoters of co-teaching advocate that, "teachers volunteer to participate, have common planning time, have equal responsibility in the classroom, and receive administrative support" (Weiss, 2004, p. 220). Magiera and Zigmond (2005) suggest that, "future research should compare co-teaching under such routine conditions to situations where teachers do receive on-going training as well as consistent co-planning time with each other throughout the year" (p. 84). More experimental research must be conducted for co-teaching to be considered a valid service delivery model and least restrictive environment for students with disabilities.

A possible example of a method to evaluate co-teachers use of different co-teaching approaches is seen in the single subject design conducted by Coddling, Feinberg, Dunn, and Pace (2005). A multiple baseline design across teacher-student dyads was used to examine the effects of performance feedback on special education teachers' implementation of antecedent and consequence procedures of ongoing individualized behavior support plans. The intervention consisted of an observer completing a data sheet that divided each behavior intervention plan into individualized components and scoring the integrity of the implementation as either (a) implemented as written, (b) not implemented as written, or (c) no opportunity to observe. At the completion of each observation, the observer met with the teacher to provide feedback using the data sheet. The results suggest that performance feedback increases the treatment integrity of antecedent components. This study was applied, reliable (with an inter observer agreement on the dependent variables of 95%), analytic, as well as empirically and socially valid.

Reading Achievement and Inclusion

Bryant, Linan-Thompson, Ugel, Hamff, and Hougen (2001) studied general and special education teachers' personal knowledge about their struggling readers and reading strategies, teachers' views of the professional development activities, and the implementation of three reading strategies in content area classes – Word Identification Strategy, Partner Reading, and Collaborative Strategy Reading. They indicate that in content area general education classes, students are expected to read and understand increasingly more difficult text. The study took place in an urban school in an ethnically and linguistically diverse middle school. Two instructional teams at each grade level served approximately 100 students. On each team, there were average-high achievers, low-achievers, and students with learning disabilities and mild behavior disorders. For the first time during the academic year in which this study occurred, full inclusion of students with these high-incidence disabilities was implemented. There was an average of 26 students in each class with about eight students identified as having a disability. Two teams of sixth grade teachers, with a language arts, science, social studies, mathematics, and special education teacher on each

team, participated. All teachers in each team shared planning periods and worked collaboratively to address students' needs.

Each of the ten teachers participated in interviews prior to the professional development to get a sense of their personal knowledge about their students and content area instructional reading practices. Full-day inservice training on the three reading strategies was completed, and the researchers provided in-class modeling for the teacher who was responsible for teaching the strategies. Implementation consisted of the teachers teaching the three strategies throughout the semester. The fidelity of treatment and frequency of implementation were monitored during the semester with the use of intervention validity checklists for each of the interventions. Post interviews were conducted to elicit teachers' perceptions of the efficacy of the strategies implemented and the professional development.

The results of the pre-staff development interview fall into four major themes. First, teachers were apprehensive about the reading and reading-related difficulties of the struggling students. Second, teachers felt overwhelmed by issues such as the effects of low socioeconomic condition on students' learning and the needs of English language learners. The third theme was the competing needs and related pressures of teaching struggling readers, teaching the curriculum, and getting students ready for their state's high-stakes assessment. And fourth, in spite of feeling overwhelmed, many teachers found time to provide adaptations for struggling students and recognized the importance of doing so.

All the teachers perceived the word identification strategy to be beneficial for their low-achieving students given the demonstrated improvement in their students' ability to break down multi-syllabic words into smaller parts and to recognize prefixes and suffixes. Teachers saw improved student performance and fluency with partner reading but the strategy was not well received by the students. Although teachers noted the students' ability to generalize the collaborative strategic reading terminology across settings, this was the most difficult strategy to implement. Implications for instruction include student progress monitoring as part of strategy training to ensure that students are benefiting from the instruction. This study was applicable in a school setting, socially valid, and replicable.

Research Question

The purpose of the proposed study is to identify the most effective co-teaching approach, one teach-one assist or parallel teaching, on increasing reading achievement of middle school students with disabilities. Therefore, the research question is: What is the effect of two co-teaching approaches on the reading achievement of middle school students with disabilities?

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Response to Intervention Versus IQ-Achievement Discrepancy Model as an Eligibility Determinant for Learning Disabilities

Yvette S. Perez

Currently there are over 2.72 million students identified as learning disabled. There is a growing debate, which centers around the method schools took in referring, evaluating and placing these children into specialized programs. In 2004, the reauthorization of IDEA looked closely at the present evaluation procedures that place students into learning disabilities programs due to the extraordinary number of students identified as learning disabled. The new language in the reauthorization of the Individuals with Disabilities Education Improvement Act (IDEA '04) states that for the purpose of determining whether a child has a specific learning disability, the school district may use a process which determines if a child responds to a scientific, research based intervention as part of its evaluation procedures (Sec.614 (b)(6)). This new aspect of IDEA has caused policy makers to take a close look at how students with learning disabilities are identified.

The question as to how and when to identify students with disabilities is not a new one. The growing concern occurs because (a) there is criticism of the current identification model (IQ-achievement discrepancy), (b) there is criticism of the wait-to-fail approach most school systems take determining eligibility for special education, (c) there is renewed interest in constructs in learning disabilities that rule out limitations of instructional opportunity and (d) there is a need to prevent the over identification of students who come from culturally linguistically diverse (CLD) backgrounds. The thinking behind this is that by conducting intervention when concerns first emerge, as opposed to waiting for a child to fall behind, fewer students will be identified as having learning disabilities (Understand Response to Intervention, What It Is, How It Works, 2005). In order to ensure adequate instruction for students with learning disabilities, it is essential that identification practices focus on assessments that are directly related to instruction, that any services for students who are struggling prioritize intervention over eligibility, and that special education be permitted to focus more on results and outcomes and less on eligibility and process (Fletcher, Coulier, Reschly, & Vaughn, 2004).

The author of this paper will examine the current definition of learning disabilities, the use of the discrepancy model as the basis for determining eligibility for a Learning Disabilities program and the criticisms of this model. It will further define and describe the response to intervention (RTI) model that has been proposed and examine its key components both as a pre-referral and diagnostic tool. Finally, several single subject design studies that support the use of RTI as a determinant for special education, specifically Learning Disabilities, will be discussed.

Since 1977, the definition for eligibility into a program for learning disabilities has included the following criteria (a) failure to benefit from adequate instruction, (b) displaying a severe discrepancy between achievement and intellectual ability, and (c) exclusion of sensory impairments, mental retardation, emotional disturbance, or environmental, cultural or economic disadvantage (Speece, Case & Molloy, 2003). Since the identification of

students with learning disabilities (LD) has increased more than 200% from the time the category was established (Vaughn, Linan-Thompson, & Hickman, 2003), many professionals are taking a hard look at the eligibility process. There are many reasons that could be attributed to the growth in learning disability identification. The reasons range from the suggestion that higher numbers are indicative of a maturing field, to the belief that the category of learning disabilities is becoming a sociological sponge mopping up the spills of general education (Vaughn et al., 2003). One thing is for certain; there is a growing trend of over identification of students into learning disabilities programs, more specifically students from culturally and linguistically diverse backgrounds (Vaughn et al., 2003; Moore-Brown, Huerta, Uranga-Hernandez, & Pena, 2006). For example, students identified as English learners often have limited exposure and proficiency in English. Because these students' performance on English-reading tasks is compared to their monolingual peers, these children are often mislabeled as students with learning disabilities (Gerber, Jimenez, Leafstedt, Villacruz, Richards, & English, 2004). Therefore, it is imperative that a more concise and efficient procedure to identify those students with true reading learning disabilities versus those learning to read English.

As stated earlier, eligibility for learning disabilities has traditionally been determined by using the discrepancy model. In this model the student must meet 3 criteria. The first criterion, failure to benefit from adequate instruction, assumes that all instruction is adequate and equal. There has been research to show that many students from culturally and linguistically diverse backgrounds have not been given appropriate instruction to develop the ability to read proficiently (Moore-Brown et al., 2006). Also, allowing for teacher input can promote teacher bias in the referral process. It is well known that teachers often compare students to each other to determine if there is a deficiency in reading achievement. Teachers do not have a clear, concise, unbiased instrument to identify needs and difficulties in learning. Teachers' judgments may incorporate not only an assessment of performance against a set of norms, but also an assessment of how specific students historically have failed to learn what teachers have attempted to teach (Gerber et al., 2004). A new model needs to rely less on teacher referral, thereby reducing false negative identification and possible referral bias (Speece et al., 2003).

The second criterion in the eligibility process centers on the discrepancy model. In the discrepancy model, a child's IQ score is compared to their scores on a nationally norm-referenced academic achievement test. In order to be considered learning disabled, there must be a statistically significant discrepancy between IQ and achievement. The use of the discrepancy method has been hotly debated over time. It is perceived by many as unfounded and central to the challenge of appropriately identifying and serving students with learning disabilities (Vaughn et al., 2003). The many flaws identified in the discrepancy between IQ and achievement criteria include (a) IQ is not an indicator of potential, but rather a test of achievement, (b) the psychometric properties of the standardized tests often prevent students from receiving the special help they need until they are age 9 or older, (c) discrepancy scores are unreliable, (d) the focus on students' academic needs is not prioritized, (e) discrepancy is not a valid marker for disability, and (f) misidentification rates are high (Vaughn et al., 2003). In fact, Speece et al. (2003) cited evidence that the IQ-achievement reading discrepancy model does not capture all children who experience reading difficulties.

The final criterion ensures elimination of all other factors that may be interfering with a child's ability to learn. However, it does not address when students with apparently significant learning problems do not meet eligibility criteria but their lack of knowledge appears to be related to other factors rather than a disability. These additional factors often include such issues as poor prior instruction, lack of consistent education, and poor educational support in the home due to either lack of parent education or other family needs (Moore-Brown et al., 2006).

Preventing Reading Failure

When students learn, they pass through a series of stages that correspond with different reading proficiency levels. These stages include acquisition, fluency, generalization, and adaptation. In most cases, students who are referred for skill deficits in reading are most likely experiencing difficulty mastering one of the first two stages of instruction (Eckert, Ardoin, Daisey, & Scarola, 2000). Due to the fact that at least 20% of the population in the United States has reading difficulties (Daly, Persampieri, McCurdy, & Gortmaker, 2005), and these difficulties are not always addressed, there is a growing body of research that questions the validity of diagnosing reading disability solely on the basis of IQ-achievement discrepancy based on one-time administration of IQ and achievement tests (Berninger et al., 2002). The focus is now shifting from a "wait-to-fail" approach to a "preventing reading failure" approach.

Current research is heading in the direction of alternative methods of identifying Learning Disabilities, most of which centers on responsiveness to instruction (Speece et al., 2003). The basic concept of response-to-intervention and/or instruction, RTI, is that a continuum of intervention intensity exists in which instructional modifications are sequentially applied to the referred student until an effective intervention is identified (Daly et al., 2005). RTI makes no assumptions about the underlying cause of the learning difficulty. Instead, such models recognize that the difficulty can lie within the child, within the instruction or a combination of both (Speece et al., 2003). RTI requires educators to provide early intervention, match instruction to the academic needs of students, and monitor student progress with ongoing database decision-making (Vaughn et al., 2003). This requirement directly aligns with the current No Child Left Behind Act (NCLB). Under NCLB, schools must engage in focused and accountable efforts to improve educational outcomes for all students but especially, to close the gap in achievement for historically low-achieving students, including those who are disabled and those who are English learners. Fundamental to this effort is a strong orientation toward prevention of reading failure (Gerber et al., 2004). There are other approaches to identify children with learning disabilities. For example, a low achievement criterion as measured by published, norm-referenced tests; and low achievement and normal intelligence criteria applied jointly. Although each model has its pros, for the purpose of this study, the 3-4 tiered response-to-intervention model will be used.

The shift to a response to intervention model in identifying students with learning disabilities requires for a total abandonment by professionals of the usual strategies used to identify and provide interventions for student deficits. Instead, educators would approach

identification of students with Learning Disabilities from a "risk" perspective. That is, all students at risk for significant academic problems would be provided interventions and only students whose response to treatment remained low would be identified as Learning Disabled (Vaughn et al., 2003).

How Response to Intervention Works

The treatment-validity model explored by Fuchs and Fuchs (1998) is the most fully developed; data based conceptualization of how response to instruction/intervention may be applied to Learning Disabilities identification. In this model, curriculum based measures are used to identify students whose levels and rates of performance are below those of their classmates. These students are referred to as dual discrepant, or DD. Dually discrepant children exhibit a discrepancy from their peers on both mean level performance and rate of progress on academic skills despite receiving well-designed and implemented interventions. These children continue to struggle in an environment where most children are thriving (Vaughn et al., 2003). It is important to note that a child could not be identified as dually discrepant unless there was evidence that most children in the classroom were responding to the curriculum and/or intervention, that is, that instruction was adequate (Speece et al., 2003).

As stated earlier, several studies support the findings of a three tiered or layering system to address the issue of when to provide intensive treatment intervention. Vaughn et al. (2003) conducted a study of 45 second-grade students at risk for learning problems. The students were provided daily, structured supplemental reading instruction for 35 minutes. They were assessed after 10 weeks to determine if they met pre-established criteria for exit. Students who met criteria no longer received supplemental instruction. Those who did not were regrouped and supplemental instruction continued for an additional 10 weeks. After 20 weeks to supplemental instruction, students who still had not met criteria were provided another 10 weeks of supplemental instruction. Students who never met criteria were classified as "not exit." Their supplemental instruction consisted of a fast-paced lesson that included correction and feedback as well as opportunities to practice. This study certainly supports the argument that not all students will make adequate progress in the general education classroom without ongoing, and for some students extensive, supplemental instruction.

Speece et al. (2003) reviewed three studies that investigated student's responsiveness to general education reading instruction as an indicator of need for a more intensive intervention. They found that children who differ from their peers on level and slope of performance showed more severe academic and behavior problems and were in need of more intensive interventions than typically provided in their general education classrooms compared to children who have IQ-achievement discrepancies or low achievement. They also found that dually discrepant children who received specially designed general education instruction had better outcomes and required fewer services beyond their general education classrooms than dually discrepant children who did not participate in general education instruction.

Another study that supports the Response to Intervention model was done by Gerber et al. (2004). They created an intervention design that was compatible with the Reading First initiative and with research on the use of multi-tiered intervention strategies for preventing reading failure. They employed a Core Intervention Model (CIM) comprised of specific instructional behaviors that teachers might easily learn and employ regardless of curriculum. The theory behind CIM is that cognitively complex demands can be reduced systematically until students are able to respond correctly and then can be recomposed in "steps," each providing a scaffold that supports the next higher step until students are able to respond correctly to the original high-demand question.

Will the Teachers Buy Into RTI?

All the studies called for intensive intervention to supplement daily reading instruction. The interventions focused on one or more of the five main elements of reading development that have been identified as essential for beginning readers: phonemic awareness, phonics with special attention to systematic mastery of sound-letter relationships as well as word families, fluency, instructional level reading and comprehension, and spelling. In each study, the intervention called for anywhere from 20 – 40 minutes of intensive instruction. Who is going to deliver and pay for this intensive remediation? Because RTI demands significant time and attention, traditional roles of school personnel will need to be redefined. I believe RTI will demand a shift in the typical roles and responsibilities of school support personnel, such as special education teachers and speech and language pathologists.

Early intervention in addition to the regular program can be expensive. However, failure to provide sufficient early intervention when the probability of prevention is the highest will not be cost effective in the long run (Berninger et al., 2002). Failure to implement intervention strategies leads to more students referred for the eligibility process. This, in turn, translates to expensive man-hours in testing and protocol. Over-identification also costs in the form of special education teachers and paraprofessionals.

General education teachers can be our strongest ally or our most outspoken enemy. Because response to intervention models take time for monitoring, and relies on evaluation procedures foreign to many practicing professionals, it may be dismissed as unrealistic. Therefore, it is imperative that the intervention chosen be able to be realistically and reliably implemented by the general education teacher (Speece et al., 2003). Bringing in the general education teacher as part of the multidisciplinary team and negotiating the rate/duration of intervention can easily achieve this. Teachers need to feel in control of their students.

The response to intervention model should be pursued as a viable option for identifying students with reading/learning disabilities (Vaughn et al., 2003). The advantages of using response to intervention as at least one of the criteria include that (a) there is a focus on academic behavior rather than difficult-to-measure, "processing weaknesses," (b) the IQ-achievement discrepancy is eliminated, (3) the focus becomes growth and level of performance, (c) it provides supplemental instruction to a large number of at risk students, not just those identified as disabled, (d) it requires ongoing monitoring of student progress,

and (e) it reduces many biases inherent in traditional referral systems that depend considerably on the perceptions and interpretations of classroom teachers (Vaughn et al., 2003; Speece et al., 2003).

Conclusions

It is imperative that research continues in the area of response to intervention as a tool to determine eligibility for Learning Disabilities. There is a point to emphasize, and that is that early intervention may not be sufficient to eliminate all kinds of specific reading disabilities (Berninger et al., 2002). In the reauthorization of the Individuals with Disabilities Education Improvement Act (IDEA) of 2004, local education agencies (LEA) are prevented from requiring the use of a discrepancy model for determination of Learning Disabilities. IDEA 2004 also allows for multi-disciplinary assessment teams (MDAT/M-Teams) to consider whether the student has responded to scientific intervention as part of the determination process. Investigating ways to appropriately assess students who may be suspected as having LD without using the discrepancy model is critical because, although the law now prohibits LEAs from requiring a discrepancy between ability and achievement to establish the presence of a learning disability, alternative models are not readily available (Moore-Brown et al., 2006).

At this time it appears that RTI should definitely be used as a first step in determining eligibility for learning disabilities. However, further study is needed in order to make a conclusive argument that RTI, as a determinant of learning disabilities, should replace the current method of IQ-achievement discrepancy. A common approach to evaluating functional relationships between behavior and events surrounding its occurrence is to employ single case experimental designs. The use of single case designs is in keeping with practice standards for establishing empirically supported interventions. However, most of the literature relies predominantly on group design research. Often, empirically supported interventions focus on extremely controlled settings like clinics. Few studies have reviewed empirically supported treatments for school-based applications (Eckert et al., 2000).

In this study, I will examine if students who previously met criteria for learning disabilities through the traditional IQ-achievement discrepancy model would still be deemed in need of services once the Response to Intervention treatment was employed.

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Response to Intervention (RTI)

Magda D. Salazar

The ultimate goal for all students with learning disabilities is to improve academic performances, primarily in reading. According to Center for the Improvement of Early Reading Achievement (CIERA) (1998), "children who are identified as having reading disabilities profit from the same type of well-balanced instructional programs that benefit all children who are learning to read and write, of which the bottom line is engaging in meaningful reading and writing activities" (n.p.). Students with learning disabilities need to be exposed to the same grade-level expectations using appropriate scientifically-based reading interventions. While in my second year teaching, I realized that my students, with proper scaffolding and instruction, were reading material comparable to their general education peers. Why had they been initially placed into special education? They only required additional instructional practices and support; a smaller class was not the "solution," as I had twenty-eight students from grades kindergarten through second grade at one time. Looking at each individual student, I inquired as to who was their general education teacher in kindergarten and first grade. Surprisingly enough, 9 out of my 11 second grade students had the same first grade teacher and 7 out of the 11 had the same kindergarten teacher. I hypothesized that they had been provided with instruction less than adequate, the teachers had been quick to refer without appropriate consideration to alternative strategies, the students had subsequently been diagnosed with learning disabilities, and then placed into special education. "Few would argue with the claim that classroom instruction affects student achievement" (Donovan & Cross, 2002, p. 188).

Referral Process

Referral and placement rates in learning disabilities have increased significantly. In Miami-Dade County Public Schools, there are over 26,000 students identified as having learning disabilities, as of June 2005. Presently, the model to determine student eligible for specific learning disabilities focuses on the discrepancy between the student's scores on tests of ability and academic performance, as per a psychological evaluation. The IQ and achievement scores are particularly common in identifying students with mild cognitive disabilities, such as learning disabilities and students who are low achieving but may not have a specific disability (Huebert & Hauser, 1999). IDEA 2004 maintains the same definition of SLD as previous versions of the law, which wasn't changed since Public Law 94-142 in 1975. That definition, found in United States Code (20 U.S.C. §1401 [30]), reads as follows:

"The term 'specific learning disability' means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations.

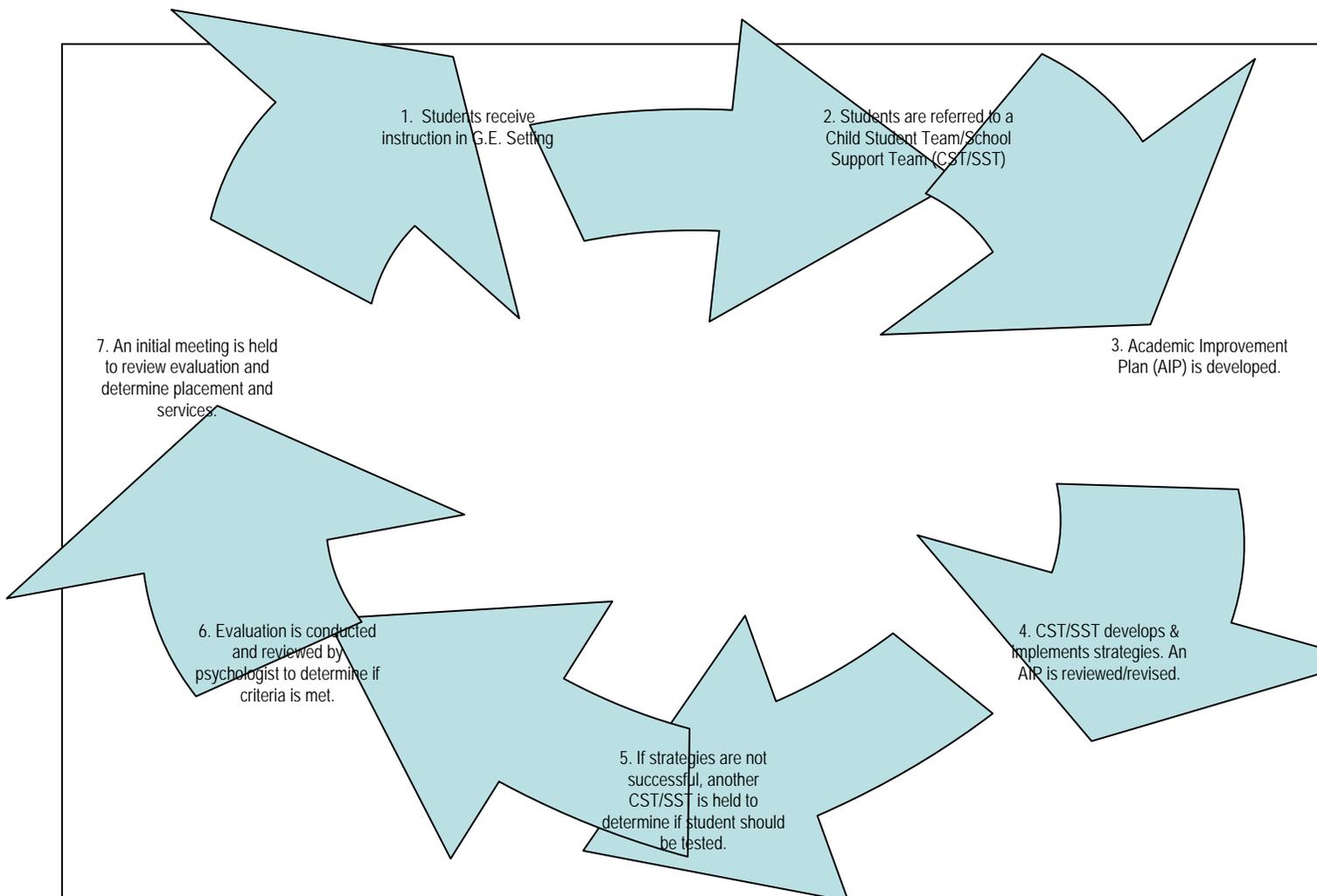
According to LDOnline (n.d.), the term "learning disability" describes a neurobiological disorder in which a person's brain works or is structured differently. These differences interfere with a person's ability to think and remember. More than ninety percent of students placed in special education programs for learning disabilities are referred for reading deficits. Screening procedures and psychological IQ assessments do not sort out those children whose reading difficulties can be attributed to ineffective reading instruction and lack of participation in intensive reading remediation. Identification procedures and placement vary significantly such that a child identified in one district may not necessarily be identified in another (Huebert & Hauser, 1999). Accounting for ninety percent of all students served under IDEA, these "high incidence" disabilities (emotional handicaps, mild mental retardation, learning disabilities) are closely related with teacher referral (Cramer, 2002), but make use of psychometric tests for identification, often in ways that are not linked with instruction (US Department of Education, 2002). Students with learning disabilities are placed into special education based upon a one time snapshot psychometric test.

A major concern with the identification of students with learning disabilities is the disputable evaluation process and the uncertainty of decisions about placement for students with learning disabilities as well as

the inability to distinguish between performance of students with a disability and performance of a low-achieving poor reader. The “wait to fail” referral method shown in Figure 1 presently in place in many districts is being re-evaluated nationally, is being replaced by Response to Intervention (RtI) as a viable option, instead of a discrepancy model. Dr. Sharon Vaughn, as cited by the US Department of Education (2002), states the premise of RtI models in this way:

There is no compelling reason to continue to use IQ tests in the identification of learning disabilities. And, if we eliminate IQ tests from the identification of individuals with learning disabilities, we could shift our focus on to making sure that individuals are getting the services that they need and away from the energy that’s going into eligibility determination (p. 22).

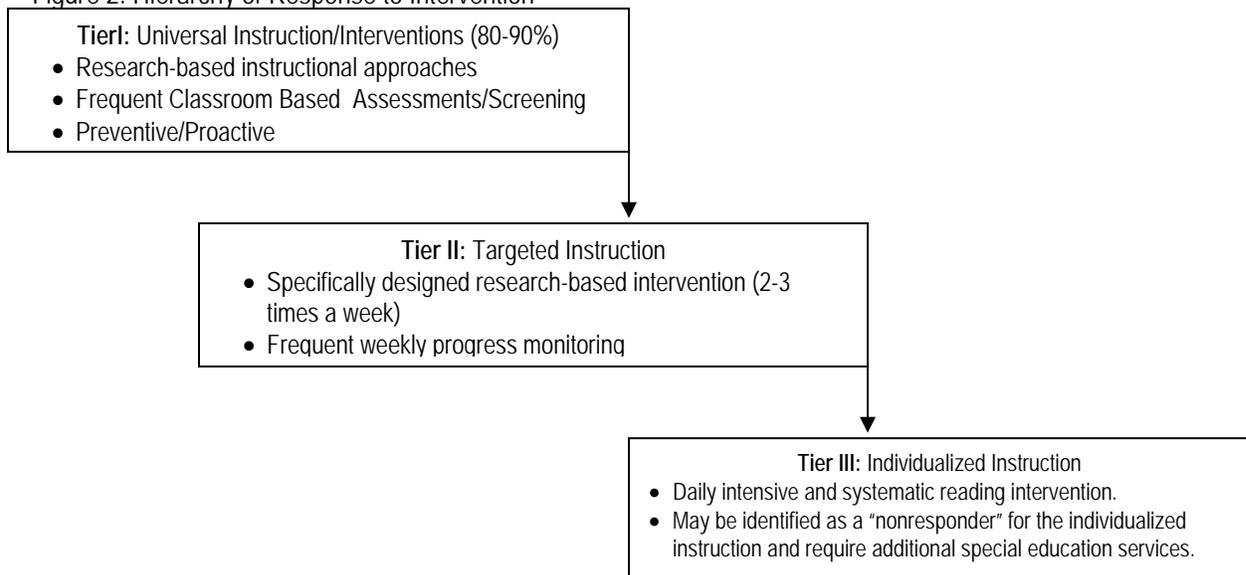
Figure 1 shows the current framework for referral of students suspected of having learning disabilities. First, the student receives instruction in the general education classroom. Then, students who do not make adequate progress are referred to a Child Student Team/School Support Team (CST/SST). Next, an Academic Improvement Plan (AIP) is developed. Subsequently, CST/SST develops and implements strategies. An AIP is reviewed and/or revised. If strategies are not successful, another CST/SST is held to determine if student should be tested for potential discrepancy between achievement and intelligence on standardized tests. Next, an evaluation is conducted and reviewed by psychologist to determine if criteria is met. Finally, an initial meeting is held to review evaluation and determine placement and services.



Unlike diagnosing children with physical or sensory disabilities or those with more severe forms of mental handicaps, identifying students who exhibit milder disabilities, such as learning disabilities, is often encountered with much error. With regard to identification of students with learning disabilities, the present debate is centered around two key factors: (1) use of the discrepancy model and criticism of the “wait to fail” model of special education; (2) ruling out limitations of instructional opportunity (Response to Intervention), as being the primary reason for a student’s academic and behavioral achievement (Moore-Brown, Montgomery, & Bielinski, 2005).

So, what is Response to Intervention (RtI)? RtI is where No Child Left Behind Act of 2001 meets the Individual with Disabilities Education Act (2004) in an effort to revitalize the determination criteria for students with learning disabilities. According to Graner, Faggella-Luby, and Fritschmann (2005), “RtI operates from a paradigm of disability identification that seeks to rule out poor instruction [as noted with my students] as a reason for student underachievement” (p. 96). The RtI model is a multi-tiered (three or four tiers) approach to providing academic and behavioral interventions to students at increasing levels of intensity (Florida Department of Education, 2006; Reschly, 2005). Progress monitoring over time is used to make sound educational decisions, including possible determination of eligibility. Graner, Faggella-Luby, and Fritschmann (2005) describe the RtI model as being composed of eight core features: 1) high-quality classroom instruction, 2) research-based instruction, 3) classroom performance measures, 4) universal screening, 5) continuous progress monitoring, 6) research-based interventions, 7) progress monitoring during interventions, and 8) fidelity measures. RtI models may be implemented in various ways, ranging from two to four tiers of instruction. The quality of the academic instruction intensifies at each tier as a student moves across each level (Fuchs & Fuchs, 2006; McMaster, Fuchs, Fuchs, & Compton, 2005), see Figure 2.

Figure 2: Hierarchy of Response to Intervention



Generally, Tier 1 consists of quality classroom instruction based on curriculum (Sunshine State Standards (SSS)/Content-based Curriculum (CBC)) from a general education teacher and includes about 80-90% of the population. Progress monitoring is usually curriculum-based and its purpose is to determine the rate of growth for all students. Frequent monitoring is a critical link between assessment and the academic interventions implemented. The assessment process is used in 3 ways: (a) as a screening tool,

(b) as a tool for collecting diagnostic information, and (c) as a tool for monitoring process. The interventions are usually implemented within the classroom with the focus on improving core classroom instruction for all learners. The non-responders will receive small group instruction usually two-three times a week for duration of six to twelve weeks in addition to the core reading program with frequent monitoring and are referred to as Tier II students. Tier II students have been identified as performing significantly lower on the classroom-based and district/state assessment than their peers and make up about 5-10% of the student population (McCook, 2006; Graner et al., 2005). Those students who have not responded to Tier I or Tier II efforts are identified as Tier III students. Students here are grouped in a 1:1, 1:2, or 1:3 ratio. Students at this tier may be eligible for meeting the criteria for more formal special education. The potential for RtI as a viable option to discrepancy models is gaining national attention and rightfully so.

In a study conducted by Moore-Brown, Montgomery, and Bielinski (2005), 123 students over a period of two years were provided with a 45 hour intensive instructional program based on the National Reading Panel's five critical elements for teaching reading: Phonemic Awareness, Phonics, Vocabulary, Fluency, and Reading Comprehension. The study was conducted in an urban setting with a 96% Hispanic student population. The RtI initiative was implemented in ten out of the twelve elementary schools in that school district. Struggling students were provided with one hour a day or 45 hour of interventions based upon the recommendations of *Put Reading First* and the NCLB legislation. The intervention targeted all of the five critical components of reading, not just the deficit areas. Out of the targeted 63 students who participated in Year One, only four students had been identified as students requiring special education services. In Year Two, 60 students had been identified as in need of Tier III interventions. Out of these 60 students, four had been identified as meeting eligibility criteria for learning disabilities; one was identified as having emotional overlays. The results implied that overall students significantly improved on the curriculum-based assessment as well as the statewide assessment. Although the study is promising, it also indicated that not all students made equal learning gains. However, all but eight, were not identified as needing special education as a result of limitations of instructional practices (Moore-Brown et al., 2005).

The concept of response to intervention appears to be a viable alternative approach to defining learning disabilities, particularly in light of difficulties with discrepancy-based models. Many researchers (Fuchs, Fuchs, Klingner, & Moore-Brown) are encouraged by the potential of RtI. Response to intervention has gained the attentions of educators, researchers, and politicians because it promises to alleviate many current concerns about the IQ discrepancy model, "wait to fail" methods, as well the potential benefits to the educational systems are surfacing (McMaster et al., 2005).

Choosing appropriate criteria for identifying students with learning disabilities is undoubtedly one of the most dubious tasks facing the field of learning disabilities. Would students who meet the final criteria under response to intervention method also be identified as having specific learning disabilities, not as a result of poor reading instruction?

Research Question

The purpose is to extend the research on Response to Intervention (RtI) as a viable option for identifying students as having specific learning disabilities, rather than showing poor performance as a result of poor instruction. Understanding this will hopefully provide effective instruction and simultaneously identify students in need of intensive special education services.

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Glossary

Discrepancy Model: the concept of discrepancy was used to differentiate between students who had low achievement because of low ability (i.e., individuals with low ability or IQ) and those whose low achievement was unexpected (i.e., individuals with normal ability). The discrepancy is based on a comparison of scores from standardized IQ and academic achievement tests.

Learning Disabilities: a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations.

Response to Intervention (RtI): a viable option for identifying students with learning disabilities, under the new IDEA provisions. IDEA 2004 requires that the State Agency allow districts to use a "process that determines if the child responds to scientific, research-based intervention as a part of the evaluation procedures described [in the statute]" when determining a child eligible under the category of SLD.

Scientifically Research-Based Reading Interventions: The reauthorization of the Elementary and Secondary Education Act-No Child Left Behind 2001 legislation (2002) requires education decision-makers to use the substantive body of research on reading to guide their selection of reading programs (Nelson, 2003).

Dynamic Indicators of Basic Early Literacy Skills: A set of standardized, individually administered measures of early literacy development, which are designed to be short (one minute) fluency measures used to regularly monitor the development of pre-reading and early reading skills (The Florida Legislature, 2006).

Tier I Students: Students whose needs are not being met by the core curriculum.

Tier II Students: Students who are significantly behind in reading, initiation of scientifically-based reading instruction, closely monitored by the child's teachers.

Tier III Students: Students who are not responding to the scientifically-based reading intervention and may require additional special education services.

Progress Monitoring: Progress monitoring is a scientifically based practice that is used to assess students' academic performance weekly or monthly and evaluates the effectiveness of instruction.

EARLY SUCCESS™: a commercially published scientifically research-based intervention program designed to accelerate reading growth for students reading below grade level, delivering specialized instruction to struggling readers to help them reach or even surpass their grade level in reading ability

Classroom-based Assessment: Assessments help us become better teachers and should help our students become more accomplished learners. Assessment should not simply monitor achievement or report scores, but rather link instruction with progress monitoring.